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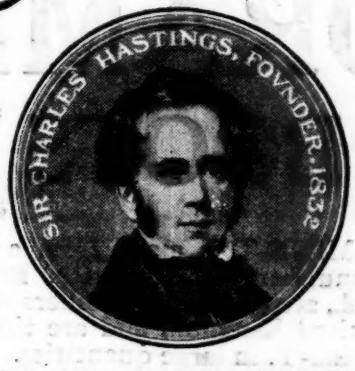

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A British Medical Association Lecture

ON

THE PATHOLOGY OF GASTRIC ULCER.

DELIVERED TO THE DERBY DIVISION, MAY 18TH, 1923,

BY

MATTHEW J. STEWART, M.B., CH.B., M.R.C.P.,
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PART I.—THE ETIOLOGY OF PEPTIC ULCER.

IT is now generally believed, on strong clinical and pathological evidence (Bolton, 1913[1]), that all chronic gastric ulcers arise in and from acute ulcers—that is, that all ulcers are rapidly formed in the first instance, a chronic ulcer being merely one which has been in existence for a certain length of time. Two etiological problems are thus presented—(A) the cause or causes of acute ulcer, and (B) the factors which lead to the persistence or non-healing of such an ulcer.

A. ETIOLOGY OF ACUTE ULCER.

The various factors, clinical and experimental, concerned in the production of acute ulcers fall into two categories: (1) those which act by producing injury (malnutrition, devitalization, etc.) of the gastric mucosa, and (2) the digestive action of the gastric juice.

1. *Causes which Act by Damaging the Mucosa.*

Experimentally, injury to the mucosa of such a kind as to lead to ulcer may be brought about in a great variety of ways. Clinically, also, many possible causes have to be taken into account. Whatever the agent, the most frequent mechanism appears to be by the production of a focus of necrosis, with or without a preceding focal haemorrhage, or the lesion starts as an inflammation of the lymphoid follicles.

(*a*) The theory of vascular blocking was one of the earliest to be put forward, and was a deduction by Virchow from the well known funnel-shaped character of many gastric ulcers. Such blocking might result from arterial embolism or venous thrombosis, with or without pre-existing disease of the vessel wall, but neither clinically nor experimentally is there any considerable body of evidence in support of this. The anastomotic connexions of the large and medium sized arteries of the stomach are so extensive and complete that it is practically impossible to produce ulcer experimentally by obstructing one or even several of them. It is possible, however, to produce typical acute ulcers by injecting into a gastric artery substances which will produce embolism in the small arteries of the mucosa and submucosa—for example, fat (Schridde, 1907[2]), or a suspension of lead chromate (Cohnheim, 1890[3]). Clinically it is not found that sources of sterile emboli are commonly present in cases of gastric ulcer, nor is venous thrombosis often met with except as a secondary or terminal event.

Vascular obstruction or stasis may also be brought about by spasm of the arteries or of the stomach itself. Durante (1916)[4] produced ulcers by section of the vagus or sympathetic nerves, or both, and he attributed his results to arterial spasm, due, he believed, to excessive production of adrenaline, while the acute duodenal ulcers of experimental adrenaline intoxication (Friedman, 1915[5]) may have a similar explanation. There is no definite evidence that vasomotor spasm is a factor in the production of ulcer in man, although on clinical grounds there is much to be said for it. As Hurst (1922)[6] points out, "something of this kind would alone explain the undoubted influence of sudden change of temperature in the production of relapses of gastric and especially of duodenal ulcer, and the frequent association of a poor peripheral circulation with gastric and duodenal ulcer."

Spasmodic contraction of the stomach itself, on the other hand, is a well known and common accompaniment of chronic ulcer, and one which may well exert a vicious influence on the lesion. There is no proof, however, that it is a cause of ulcer in the first instance.

(*b*) General nutritional factors in the etiology of gastric ulcer are now largely discounted. Bolton emphasizes the fact that there is no reliable evidence to show that chlorosis is etiologically related to ulcer as was once thought, "neither is there any evidence to show that an acute ulcer spreads more readily in anaemic patients." The terminal acute ulcers occasionally met with in cachectic subjects can be much better accounted for by a terminal infective hypothesis.

(*c*) Trauma by chemical or by physical agents is an undoubted cause of gastric ulcer, but from its supposed infrequency is generally regarded as of little clinical importance. The swallowing of caustic substances—strong mineral acids, silver nitrate, and the like—may be followed by ulcer, and Bolton has emphasized the possible importance in this connexion of the dietetic use of vinegar, acetic acid being a powerful protoplasmic poison even in dilute solution (2 per cent.). Mechanical trauma, whether from within or from blows on the abdomen, is even less important. It is well known that the stomach will tolerate in a quite remarkable way the presence in its interior of hard foreign bodies, such as knives and nails, without becoming ulcerated. From time to time cases are reported—for example, the recent case of H. E. Griffiths (1922)[7]—in which there is apparently a very close connexion between a blow on the abdomen and the development of gastric ulcer, and one has seen lesions of the stomach (focal haemorrhages and lacerations) in cases of traumatic death which might well have been the starting point of ulcer had the patient survived.

Thermal trauma, scorching or scalding from hot food and drink, has had much importance attached to it by some writers. Decker (1887)[8] produced gastric ulcer in two dogs by feeding them on gruel at 62° C., while Heiser (1922)[9] found that in 108 gastric ulcer patients there were only four who were not notorious for insisting on their food and beverages being served very hot, or they were very rapid eaters, or both.

(*d*) Bacterial infection and intoxication is, however, undoubtedly the most important direct cause of acute gastric and duodenal ulcer in man, as it is the method by which, particularly in the hands of Rosenow, some of the most remarkable experimental results have been obtained. It has long been known that acute ulcer might occur during the course of acute bacterial infections, as well as in other forms of toxaemia, but it is only within recent years that the importance of this connexion has been fully established (Gandy, 1899,[10] and Bolton, 1913[1]).

I have analysed a series of 53 cases of acute gastric and duodenal ulceration met with in the course of 1,500 consecutive autopsies. In 2 cases only were the ulcers the proximate cause of death—one a man of 42 years of age who died of mesogastric and mediastinal cellulitis due to three acute linear ulcers near the cardiac orifice, the other an infant of 4 months who died of haemorrhage from multiple duodenal ulcers. In half the cases (27 out of 53) acute septic disease was present; peritonitis from various causes 14, bronchopneumonia 6, empyema 3, pyelonephritis 2, and pericarditis and meningitis one each. The principal causes of death in the remainder were cancer (6), cardio-vascular disease (6), tubercle (2), corrosive poisoning (2), and syphilis (1).

Many writers have stressed the importance of less serious, localized forms of infection, both in relation to the etiology of acute ulcer and as a cause of acute exacerbations in chronic ulcer. Dental and tonsillar infections, appendicitis and cholecystitis in particular, have been incriminated on strong clinical evidence.

The clinical connexion between non-bacterial forms of intoxication and ulcer is much less clear, although in animals positive results have been obtained by the injection of a large variety of substances (arsenious acid, chloroform, snake venom, bile salts, gastrotoxic serum, etc.). There is, however, one form of ulcer in man which probably belongs to this class—that which follows extensive burns.

In a series of 6,800 autopsies there were 115 subjects dead of burns, of whom 57 were 20 years of age or over. In this group 2 cases only showed ulceration of the stomach or duodenum. In a child of 5 who died thirty-three days after extensive burns of the trunk and limbs there was a small acute ulcer in the pyloric region of the stomach. In a man

of 50 who died thirteen days after very extensive burns of the trunk and limbs there were multiple acute ulcers in the duodenum.

A possible etiological connexion between burns and ulcer of the stomach and duodenum has long been recognized. The association, however, is rare; Bolton suggests once in every 25 or 30 cases of burns. A perusal of the literature suggests that in former years the combination was more common than now, possibly because burns more frequently became septic.

Experimentally, the work of Rosenow in particular goes far to establish the importance of bacterial infection in the etiology of gastric ulcer. So long ago as 1857 it was shown by Lebert[11] that acute gastric ulcers could be produced, as part of a general pyaemia, by the intravenous injection of pus. Later Letulle (1888),[12] Chantemesse and Widal (1888),[13] Charrin and Ruffer (1889),[14] and others produced a similar result by the injection of a variety of bacterial cultures or their filtrates (staphylococci and streptococci, pneumococci, *Bacillus pyocyaneus*, dysentery and colon bacilli, etc.). The presence of bacteria has been frequently demonstrated in the margins and floors of both spontaneous and experimental ulcers, but the possibility of these being secondary invaders has always to be borne in mind.

In 1913 Rosenow[15] reported a series of experiments in which the intravenous injection of streptococci of sufficiently low virulence not to cause a general infection was followed in a certain number of cases by ulcer of the stomach and duodenum. The ulcers were usually single and deep, with marked tendency to haemorrhage and perforation, and in many respects resembled gastric ulcer in man. The streptococci were obtained from various sources, but especially from infected tonsils, and it was shown that the ulceration was the result of a localized infection, with secondary digestion.

Later, Rosenow and Sanford (1915)[16] showed the almost constant presence of streptococci, often in pure culture, in the depths of chronic gastric and duodenal ulcers in man. The organisms isolated were of a relatively low grade of virulence, but tended to localize in the mucous membrane of the stomach and duodenum, producing circumscribed areas of infection, with haemorrhage and ulceration, in a high percentage of the animals inoculated.

In subsequent papers Rosenow (1915,[17] 1916,[18] 1921[19]) showed the remarkable specificity of these and other streptococci, which tended, in general, to reproduce similar lesions to those from which they had originally been recovered. To this phenomenon he applied the term "elective localization." He also demonstrated that streptococci from cases of appendicitis, cholecystitis, endocarditis, tonsillitis, and dental apical infection were specially liable to localize in the stomach and duodenum, with production of haemorrhagic areas and ulcers.

In a recent paper Rosenow (1923)[20] goes on to show that as in man, so in animals, spontaneous ulcer of the stomach is associated with the presence therein of electively localizing streptococci, which reproduced gastric lesions—ulcer, haemorrhage, and infiltration—in no less than 86 per cent. of the rabbits and dogs injected.

2. *The Action of the Gastric Juice.*

The strict limitation of peptic ulcer to the stomach, first part of the duodenum, jejunum (following gastro-jejunostomy), and, rarely, the lower part of the oesophagus, at once suggests that the gastric juice plays an important part in the etiology of this disease. Normally the living gastric mucosa possesses complete immunity to the digestive action of the gastric juice, but immediately a portion of it becomes devitalized, whatever the cause, then the dead or damaged part becomes acted upon by the gastric secretion, and is gradually removed by peptic digestion, an acute ulcer resulting.

The pathology of the process has been studied and the importance of the gastric juice clearly demonstrated by Bolton. By the intraperitoneal injection of a non-lethal dose of gastrotoxic serum—that is, the serum of an animal, of different species, which has been immunized against the gastric mucosal cells of the first—he was able to produce within twenty-four hours or less patchy necrosis of the stomach wall. After about forty-eight hours this necrosed tissue disappeared, leaving sharply punched out ulcers with clean bases, exactly comparable in distribution and appearance to the acute gastric ulcers of infective origin in man. If, however, the gastric juice was put out of action while the poison was acting, by the introduction into the stomach of a solution, over 1 per cent., of sodium bicarbonate no lesion of the stomach developed, even microscopical examination failing to reveal any pathological changes. Bolton has also shown, by experiment, that acute ulcer is much more easily produced in the digesting than in the resting stomach, and that in the former it is much more extensive in character. Moreover, ulceration produced in the presence of hyperacid stomach contents is much more extensive than that produced in a stomach whose contents are of normal acidity.

Recent experimental work by Mann, Kawamura, and Williamson (1922,[21] 1923[22]) has an important bearing on the relationship between acid stomach contents and the development of *duodenal* ulcer. By diverting the secretions which normally neutralize the gastric juice as it leaves the stomach to another portion of the intestine remote from the point of emergence of the acid, they were able to produce in dogs in a high percentage of cases typical subacute or chronic peptic ulcers in the intestinal (duodenal or jejunal) mucosa. These were quite comparable pathologically to the ulcers found in man.

It is obvious from these findings that while hyperchlorhydria, in man, will render conditions more favourable for the development of gastric or duodenal ulcer, yet it is by no means a necessary or essential factor. Gastric juice which possesses only the normal content of hydrochloric acid is quite able to play its part in the pathological process, although, as already shown, hyperacid juice has a much more powerful effect.

Examination of the stomach contents by the fractional method of Rehfuss shows that while hyperchlorhydria or a high normal figure is very commonly met with in cases of duodenal ulcer in man, it occurs in less than half the cases of gastric ulcer. Thus Moynihan (1923)[23] found that 73 per cent. of his cases of duodenal ulcer had a high hydrochloric acid content and only 21 per cent. of gastric ulcer cases. Bell's figures (1922),[24] at Guy's Hospital and New Lodge Clinic, are appreciably higher, especially in the case of gastric ulcer—79.4 and 45.8 per cent. respectively. About one-third of all cases of gastric ulcer are hypochlorhydric or achlorhydric, and about 10 to 12 per cent. of duodenal ulcer cases. It is perhaps worthy of note in this connexion that out of 150 cases of carcinoma of the stomach occurring in the present series of 6,800 autopsies, only 2 showed any evidence of simple ulceration at a distance from the growth, while in a series of nearly 40 cases of pernicious anaemia—one of the few diseases in which achlorhydria is constant—peptic ulcer, whether gastric or duodenal, was not once met with.

The importance of what he terms the "hypersthenic gastric diathesis" in the etiology of *duodenal* ulcer is strongly emphasized by Hurst (1922).[6] He points out that a certain proportion of healthy persons are hyperchlorhydric (10 per cent. of the healthy medical students examined by Bennett and Ryle, 1921[25]), and that some of them at any rate have also hypertonic stomachs. Such individuals, more often men than women, have an inborn variation from the average normal which manifests itself in hypertonus of the stomach with active peristalsis and rapid evacuation, and hyperchlorhydria with hypersecretion. In such people the "duodenal cap," by far the commonest site for chronic duodenal ulcer, is exposed, for several hours of each day, to an undiluted gastric juice of unusual acidity, and it only requires the intervention of one of the other factors already mentioned (especially bacterial localization) for a duodenal ulcer to develop. Hurst goes further than this: he believes that a duodenal ulcer cannot develop in anybody who has not this "duodenal diathesis."

Excessive smoking, which stimulates both the secretory and the motor functions of the stomach, is regarded by both Moynihan and Hurst as an important contributory cause of ulcer.

B. Etiology of Chronic Ulcer.

The opinion has already been expressed that a chronic ulcer is merely an acute ulcer which has lasted a certain length of time. What, then, are the factors which prevent an acute ulcer from healing? In most of the experimental work which has been done on this subject the acute ulcers have healed with great readiness and in quite a short time (two or three weeks), and the difficulty has been, not to get them to heal, but to devise means to prevent them from healing—that is, to convert them into chronic ulcers, comparable to those met with in man.

The effect of diet has been studied experimentally by Bolton. He found that in cats a meat diet appreciably delayed the healing of acute gastrotoxic ulcers as compared with a control series of milk-fed animals. He attributes this to two factors: (*a*) the prolonged retention of meat food in the stomach, and (*b*) the more copious secretion of gastric juice induced by a meat diet.

In his next experiments Bolton first produced mechanical constriction of the duodenum in cats, and followed this up with the production of acute gastrotoxic ulcers, as before. In 10 out of 16 cats which survived these procedures, the effect was to cause a definite delay in the healing of the ulcers, which might amount to thrice the time taken for normal healing to occur. In no case, however, did a chronic ulcer result; healing was merely retarded to this quite moderate extent. Both Rosenow, and Mann and Williamson, on the other hand, have definitely succeeded in producing chronic ulcer by the methods already described, the one by streptococcal inoculations, the others by stopping the normal neutralization of the gastric contents by the pancreatic and other duodenal secretions.

Does the experimentally demonstrated relationship between delayed emptying of the stomach and delayed healing of acute gastric ulcer apply also in man? There is a certain amount of evidence that it does. Ulcers of the pyloric portion of the stomach are very liable to be associated with some degree of reflex pyloric spasm, with resulting undue retention of acid contents. Bolton and Goodhart (1922)[26] have further shown that pylorospasm tends to interfere with the regurgitation of alkaline duodenal contents into the stomach, and so to delay the process of intragastric neutralization, which according to Boldyreff (1915)[27] is the normal method of control of hyperacidity. Both pyloric spasm and the hyperacidity which often accompanies it tend to induce hypermotility, while the ulcer itself is frequently associated with a localized abiding spasm in its immediate neighbourhood. It is reasonable to suppose that these factors exert an unfavourable influence on the ulcer.

The clinical effects of diet in promoting or retarding the healing of gastric ulcer are generally admitted, although opinions vary as to the degree of importance to be attached to this factor. The disturbances of gastric function, motor and secretory, which follow dietetic faults are of a kind which must undoubtedly interfere with the healing of a gastric ulcer whether or no they play any part in the initiation of the lesion. The mechanical effects of badly masticated food and the chemical effects of protoplasmic poisons like vinegar (Bolton) may be mentioned in this connexion.

The distribution of chronic gastric ulcers as compared with acute would seem to have some bearing on the question. Acute ulcers are widespread in distribution, although most common in the pyloric half, and they are very frequently multiple; chronic ulcers are almost invariably single, and the great majority (90 per cent. of the present series) occur along the course of the original gastric tube—that is, on or near the lesser curvature. This would seem to suggest that the factors which lead to chronicity differ in some way from those which produce acute ulcer in the first instance. The comparative fixity of the lesser curvature, and the greater degree of trauma and friction from stomach contents to which the "*Magenstrasse*" is subjected may possibly explain, at least in part, why acute ulcers in this situation are more liable to become chronic than those in other parts of the organ. Radasch's (1923)[28] recent study of the distribution of the oxyntic cells of the stomach fails to show any relationship to the distribution of either acute or chronic gastric ulcers.

In the case of the duodenum, the lodgement of highly acid juice for considerable periods of the day in the "duodenal cap" is probably an important factor in the conversion of acute into chronic ulcers. This would account for the preponderating localization of chronic ulcer in the first part of the duodenum in spite of the fact that acute duodenal ulcers are much more widely distributed.

[*The references will be found at the end of Part II, to be published next week.*]

The Bradshaw Lecture

ON

ANGINA PECTORIS: SOME POINTS IN PROGNOSIS.

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF LONDON

BY

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HONORARY PHYSICIAN, LIVERPOOL ROYAL INFIRMARY.

PROGNOSIS is one of the more fascinating aspects of medicine. It is a balancing of the probabilities and demands wide experience, intimate knowledge, and a keen sense of proportion combined with an instinctive capacity for weighing imponderables. Familial tendencies, the past history of the patient, the objective signs of actual disease, and those subtle but significant subjective discomforts pointing to depreciation of function must all be passed in review and their relative importance weighed before venturing on a verdict.

There are few conditions in which a clear statement as to the future is more anxiously demanded than where pain of an anginal nature has manifested itself. For the victim is conscious that in him "the unseen seat of life, and the target of death" is mortally attacked. There is with each attack an ominous trembling of the very foundations of a man's being, which leaves behind it a shaken and apprehensive soul.

The problem of assessing the expectation of life under these conditions is most difficult, and even after careful consideration of all the facts and an attempt to view the symptoms in their correct perspective, an accurate opinion is not easily attained, and where so much is uncertain we must seek for any solid ground on which to base our opinion.

I have recently reviewed the records of 309 patients in whom the dominant feature was pain of an anginal type, in an attempt to formulate the results of my personal experience, and have dealt with them more particularly in relation to prognosis.

Cause of Anginal Pain.

It is not my intention to enter either the debatable ground of the essential nature of angina or of the special pathological changes which are said by some to be causally inevitable. We are now dealing not so much with the interpretation of the pain in angina as with the mortality.

It will be generally conceded that anginal pain is the resultant of two factors: (1) afferent stimuli passing from the heart and aorta, and (2) the sensitiveness of the receiving apparatus—in other words, of those levels of the central nervous system associated with the heart and aorta; and it is to Sir James Mackenzie that we are more particularly indebted for the full appreciation of the importance of this latter factor.

From the interaction of these two we have pain, and the accuracy of prognosis will depend on a careful consideration of both, and a decision as to which of the two is dominant. The more exalted the sensitiveness of the segments involved, the more susceptible to stimulation, then the less ominous the outlook and the greater the ground for hope of a satisfactory response to treatment. On the other hand, the second essential matter for investigation is the reserve power of the heart, the health of the aorta, arteries, and myocardium, and also the permanent load on the heart of

the work that it is called upon to perform, independently of any physical effort.

Table I.—*Analysis of 309 Cases of Angina.*

Males 243, females 66 (3.7 : 1).

Valvular disease of the heart, 35 cases—		
Males		30
Females		5
Aortic valves diseased in		34
Mitral stenosis (uncomplicated)		1

Systolic blood pressure (35 V.D.H. patients not included)—

	Males.	Females.
Under 150 mm. Hg	73	10
150-179 ,,	62	12
180-199 ,,	28	10
200 mm. Hg and over	43	27
	206	59

Systolic blood pressure 180 mm. Hg and over—

Males	71 in 206 = 34.5 per cent.
Females	37 in 59 = 62.7 ,,
Total	108 in 265 = 40.7 per cent.

In my series there were in all 309 patients up to the end of July, 1923—243 males, 66 females, or 1 : 3.7. Table I gives information concerning the type of patient, the height of the systolic blood pressure, and the incidence of valvular disease. There were 35, or 11.3 per cent., in whom I had made a diagnosis of valvular disease of the heart. There was definite aortic regurgitation in 26, and some degree of aortic obstruction in 10 patients.

Among many points of interest there are two which particularly attract our attention: (1) the relation of the electro-cardiographic findings to prognosis, and (2) the diagnosis and prognosis of minor angina.

Definition of Angina.

Before considering these two points a general but cursory survey of the problem may be permitted, and it would be well to state at once what the term "angina" signifies.

By angina pectoris I have in mind an arresting form of cardiac pain, substernal rather than submammary, in which the patient is conscious of a sense of oppression, or constriction, which may reach a high grade of intensity, even a condition of intolerable anguish. This pain has certain well recognized lines of radiation and is often induced by effort or emotion. There are in addition characteristic associated symptoms not invariably present—notably the sense of impending death, and indescribable anguish of mind accompanied by varying vasomotor disorders, such as cold sweats and deathly pallor.

It is well to remember that the information desired by the patient and his friends refers more often to the duration of life than to the mode of death, although the latter is not infrequently the subject of their inquiries.

Mode of Death.

The first important factor when considering the mortality is to recognize clearly that an anginous patient does not necessarily die in an anginal seizure, but frequently from other and less dramatic causes. A number pass away quietly in their sleep without apparent distress. On the other hand, death may be sudden and painless apart from sleep. In them the final event is probably that of fibrillation of the ventricle, and is without any direct relation to an anginal attack. A large group is that formed by those who die the slow death of progressive cardiac failure. Then there are those who succumb to cerebral haemorrhage, while a few die from uraemia with its protean manifestations, and, as one would expect in a malady which may persist for years, many die from causes remote from the angina and its associated pathological conditions.

I have been able to obtain information concerning the mode of death in 65 patients. Only 32.3 per cent. died in or immediately after an anginal attack, but another 24.6 per cent. died either in their sleep or suddenly—a total of 37 patients. Twelve died from cardiac failure, and 16 from a variety of causes, some quite independent of the anginal condition. These are tabulated below.

Table II.—*Mode of Death in 65 Patients.*

Anginal attack	21
Sudden death	12
Died in sleep	4
Cardiac failure	12
Other causes:	
Diseases of kidneys	3
Diabetes	1
Cerebral haemorrhage	2
Gangrene of legs	1
Gangrene of lungs	1
Influenza and bronchitis	1
Pneumonia	1
Suicide	1
Sarcoma	2
Senility	1
Pernicious anaemia	2

If we accept the view that sudden death in these patients is usually due to fibrillation of the ventricle, and the clinical and experimental evidence favours this supposition, it is of interest to consider the factors predisposing to this lethal tumult of the myocardium. This has a definite bearing on prognosis.

Professor J. A. MacWilliam pointed out in August last that the exciting cause of fibrillation is "an increased demand on the powers of the heart and more or less stress on the organ"—for example, muscular effort or emotional excitement. Fortunately such factors leave the normal heart unaffected and are capable of inducing fibrillation only when the heart is in an abnormal condition of excessive susceptibility.

Certain drugs such as digitalis increase the liability to fibrillation, and there are probably other drugs and abnormal conditions with a similar tendency, but a "prominent part in the setting up of abnormal susceptibility to fibrillation must be assigned to defective coronary blood supply." The condition of the coronary arteries is therefore one important factor to be considered when estimating the liability to sudden death.

The liability to death *during* an anginal seizure in any particular case is almost incalculable, and I frankly admit that I know of no certain rule by which one can decide as to the probability of a sudden, dramatic, and painful exitus. An increase in the frequency and severity of the attacks is obviously ominous, but even when this has appeared uncertainty is not removed. An anginal seizure may come like a bolt from the blue. The first attack may be the last, with possibly no premonitory sign or signs to indicate that death is on the threshold. It is also well recognized that the severity and gravity of the initial seizure give no indication of the liability to an early recurrence, though in the presence of the attack itself, confronted by the physical and mental distress, it is difficult and almost impossible to take this dispassionate view. If, however, the patient survives the first stormy onset years may pass before there is any recurrence of a comparable severity.

While recognizing the elusive and incalculable element of uncertainty and frankly admitting the possibility of a sudden and terminal anginal seizure, I believe that the expectation of life in these patients can be predicted with some degree of justifiable confidence. The outlook depends on the integrity of the myocardium, and the health of the general arterial tree. It will depend also on the degree of co-operation given by the patient, who must be honest with himself and prepared to live down to the level of his damaged organs.

Death is often the outcome of the associated conditions and the cry of the heart is nothing more than the signal that it also is involved in the general depreciation. Whatever indicates a tendency to cardiac failure is of significance, and search must be made for every evidence of myocardial disease or functional impairment.

[The lecturer then dealt with the effect of transient toxaemias on the myocardium and referred to dyspnoea and the pulsus alternans as evidence of myocardial inadequacy. The grave significance of the alternating pulse was emphasized.]

High Tension.

In patients suffering from angina the significance of hypertension apart from the possibility of associated kidney disease lies in the fact that a raised blood pressure adds

to the load which the heart carries, and in addition is generally associated with a diffuse arterio-sclerosis; so that this type of patient is predisposed to cardiac distress and cerebral accidents. Even so, the careful figures of Mackenzie[3] indicate that the expectation of life in anginal patients is not materially modified by an associated high blood pressure. This is an unexpected finding. In his series the mortality curve of those patients with a systolic blood pressure of 180 mm. Hg and over followed very closely that of the mortality curve of the whole series, though, if anything, death occurred a little earlier in his high blood pressure cases. The impression I have formed is that if it be found possible to modify even slightly an excessive blood pressure the symptoms of the patient are ameliorated, but I do not find that the expectation of life has been appreciably increased.

I have records of the age at death and duration of anginal symptoms in 60 patients. In 26 the systolic blood pressure was 180 mm. Hg or over—in them the average age at death was 60.8 years, and with only two exceptions death occurred between the ages of 50 and 70. In the other 34 patients the systolic blood pressure was below 180 mm. Hg, and the average age at death (59.5 years) varied only slightly from the high pressure group.

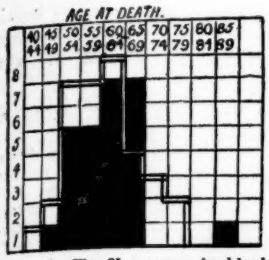

FIG. 1.—The 26 squares in black represent patients with a systolic blood pressure of 180 mm. Hg or over. The 34 squares surrounded by the double line represent patients with a systolic blood pressure below 180 mm. Hg.

In each patient I have carefully inquired for the earliest manifestation of pain, and I was surprised to find that the average duration of life from the first appearance of anginal pain was in fact shorter in the low pressure group. It was three and a half years, as compared with four and one-seventh years in the high pressure group; Fig. 1 shows graphically the age at death in the two groups.

THE ELECTRO-CARDIOGRAPH IN PROGNOSIS.

Within recent years the functioning power and integrity of the myocardium have been investigated by means of the string galvanometer, and attempts have been made to correlate changes in the shape of the electro-cardiogram with prognosis. The fullest reports dealing with this have been from the Mayo Clinic at Rochester by F. A. Willius;[3] and B. S. Oppenheimer, N. A. Rothschild,[4] J. E. MacIlwaine, J. B. Boyd Campbell,[5] and others have published interesting figures bearing on this subject.

Hitherto clinically the electro-cardiograph has been chiefly of value in analysing the various forms of arrhythmia. There are reasons for believing that in it we may find valuable assistance in prognosis. An electro-cardiogram represents graphically the variations in electric potential associated with each contraction of the heart. A normal systole is a co-ordinated contraction of the myocardium in response to a stimulus reaching it along well recognized channels. Under normal conditions the stimulus does not reach the whole myocardium simultaneously, but in an ordered sequence. It flows along the conducting channels and reaches the various areas of the myocardium at such time and in such a manner that the resultant systole of the whole heart is an efficient co-ordinated movement. Any break in the functional continuity of the conducting channels causes a deviation from this orderly sequence. These deviations are revealed in the electro-cardiogram. An abnormal electro-cardiogram therefore indicates that the fibres or groups of fibres composing the heart muscle did not contract in their proper relation one to the other. The commonest cause for this is some organic change in the myocardium, damaging or destroying the junctional tissues, the A-V bundle, and Purkinje system, but functional block due to some temporary cause may be solely responsible.

An outstanding example of this change in the electro-cardiogram curve is met with when disease obliterates one branch of the A-V bundle. There is then a complete alteration in the ventricular complex. There are also numerous other less dramatic deviations which have a definite significance. These are shown in Fig. 2.

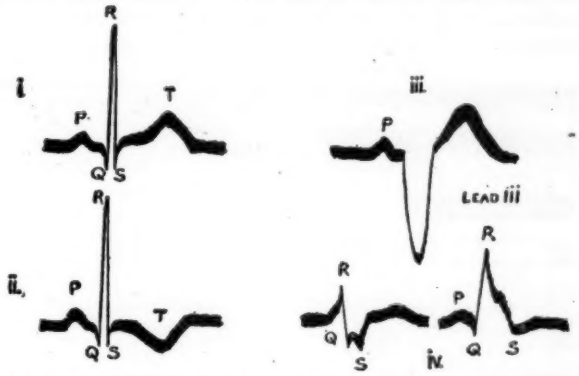

FIG. 2.—i. Represents the normal electro-cardiogram: P is due to systole of the auricles; Q.R.S. and T to systole of the ventricles. ii. Shows inversion of the T deflection, or "T wave negativity." iii. Represents the diphasic complex resulting from a lesion in the right branch of the bundle. The curve is reversed in a lesion of the left branch. iv. Two examples of "spread" of the Q.R.S. complex: compare these with the normal Q.R.S. in i. and ii. Inversion of T is only of significance in the absence of digitalis medication.

It is suggested that such abnormalities in the electro-cardiogram can be utilized in arriving at a prognosis. Willius started with the assumption that there is a relationship between an abnormal electro-cardiogram and the expectation of life, and he arranged those patients yielding an abnormal electro-cardiogram into three groups:

1. With significant "T wave negativity," an inverted T.
2. With aberration or spreading of the Q.R.S. complex in all derivations.
3. With coexistence of these abnormalities, the electro-cardiogram combining 1 and 2.

Under each of these headings patients were arranged in clinical groups, and a careful series of controls collected comparable in age, sex, clinical type, and degree of decompensation. The total number of patients observed was 696 over a period of five and a half years. I have abstracted his figures dealing with angina; they are as follows:

TABLE III.

					Control.			
	Total.	Heard from.	Dead.	Mortality.	Total.	Heard from.	Dead.	Mortality.
				Per cent.				Per cent.
A. *Inverted T:* Leads 1; 1, 2; 2, 3; 1, 2, 3	58	45	27	60.0	58	43	11	25.5
B. *Q.R.S. 0.10 secs.:* All leads	10	9	6	66.6	10	6	2	33.3
Combination: A + B	13	11	10	90.9	13	11	3	27.2
Grand total	81	65	43	66.0	81	60	16	27.0

We see therefore that Willius dealt with 81 cases of angina manifesting certain definite abnormalities, and with 81 controls, patients comparable in every way except that their electro-cardiograms were normal. He obtained full information concerning 65 patients, and of these 43 died—giving a mortality of 66 per cent. In the 81 controls full information was obtained in 60, of whom 16 were dead—a mortality of 27 per cent.; that is to say, a mortality of 66 per cent. against a mortality of 27 per cent.

Willius has no hesitation in stating that the higher mortality is the result of vascular degeneration of the obliterative type, and he considers that the abnormalities in the electro-cardiogram are directly caused by these degenerative processes. We cannot take this view as proved, though I believe we may fairly say that, other things being equal, an abnormal electro-cardiogram indicates the probability of degenerative changes in the myocardium, and in consequence a diminished expectation of life.

My personal experience is limited to 60 cases of angina in whom I have taken electro-cardiographic records, but as 16 of these have come under observation during the last six months they are not included—thus leaving 44 to be considered. (See Fig. 3.)

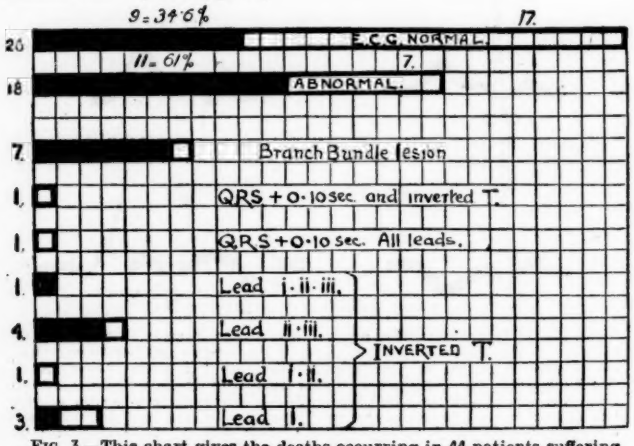

FIG. 3.—This chart gives the deaths occurring in 44 patients suffering from angina. The figures to the left indicate the number of patients in the corresponding column. The black spaces indicate the dead.

Of these the electro-cardiogram was normal in 26. Nine are dead (one dying from pernicious anaemia), giving a mortality of 34.6 per cent. Of the 18 showing definite indications of abnormal conduction 11 are known to be dead —a mortality of 61 per cent. In 7 there was clear evidence of branch bundle block—6 are dead. The duration of life after the onset of anginal symptoms was relatively short in each of the six. Of the 44 anginal patients there were 18 in whom it has been possible to determine the duration of the anginal symptoms from their onset up to death. In 11 with a normal electro-cardiogram the average duration of life from the onset of anginal pain to death was four and six-eleventh years; whereas in the smaller group of 7 abnormal electro-cardiograms the expectation of life was only two and four-seventh years.

These figures, though small, definitely corroborate the results obtained by Willius, MacIlwaine, and others. To me they are convincing, and bring us back to our original standpoint. We can find sure ground on which to base our prognosis in the integrity of the heart and arteries. The mortality in angina pectoris varies with the health of the myocardium.

Angina Minor.

Than Sir Clifford Allbutt there has been no writer who has laid greater emphasis on the importance of confining the term "angina" to a group of cases in which there is as the pathological basis a lesion of the presigmoid area of the aorta, nor one who looks more suspiciously at any diagnosis which does not conform strictly to type. Yet even Sir Clifford admits and emphasizes the gravity of minor angina, and no one has more aptly coined phrases to convey the sinister significance of certain slight and transient symptoms.

If I interpret Sir William Osler[6] correctly he considered the term "angina minor" as applicable to the neurotic, toxic, and vasomotor groups, and excluded those patients presenting signs of cardio-vascular disease. I do not think this is a satisfactory use of the term. Angina minor indicates rather a transient or mild attack of true anginal pain, but of so moderate and mitigated a severity that there is a risk of it being passed over as of little moment.

Such cases I desire to emphasize, for they are neither uncommon nor without importance. In them the prognosis is often gravely at fault, in most instances because of an incorrect or an inadequate diagnosis. The symptoms are not recognized as anginal, and their ominous significance is overlooked. The cardiac origin of the symptoms, even when suspected, is too often dismissed and some other explanation is offered, because on examination no evidence may be forthcoming of cardio-vascular disease. The diagnosis must therefore be made in many of these patients on the subjective manifestations alone.

These minor distresses may occur as premonitory warnings and are as essentially anginal as the obvious major seizure, for, as Sir Clifford Allbutt[7] says, "The first muffled aortic groan is but the prelude to the fiercer pang of stark angina." On the other hand, the major and minor may alternate, or the minor may come as an aftermath or echo of a previous major attack. Such are of a particular interest to every clinician, because the nature of the malady has then been openly declared.

An accurate prognosis depends upon the recognition of the significance of these minor anginas. It is remarkable how frequently one elicits a history of slight substernal pain or other discomfort, sometimes in peculiar and unusual sites, which arises as the result of effort, exposure, or excitement, in patients who in the end present the typical clinical picture of grave angina.

It is not surprising that these early manifestations are often misinterpreted. For example, the first indication of angina in a man of 60 was a pain situated just below the level of the thyroid on each side of the trachea, gripping in character and induced by exertion; in a few months this was accompanied by substernal pain of a moderate intensity. Six months from the onset he was suddenly seized by paroxysms of anginal pain, lasting with varying intensity for twelve hours, during which his life was despaired of.

As typical examples of a minor angina the following will serve:

(1) A man of 64 complained of a gripping pain of moderate intensity and a sensation of pressure, unaccompanied by any dyspnoea. The pain was substernal at the level of the third space and covered an area the size of a crown. It was induced by walking and ceased at once when he stood still. If he persisted pain and numbness appeared in the left forearm and hand. He first suffered in this way for two years and had been under continuous treatment for "indigestion."

(2) In another patient, a man of 56, the first indication of trouble dated back to December, 1920, and consisted in pain across the chest at the level of the nipples brought on by walking up a slight incline. If he stood still it subsided. It ceased to trouble him, but recurred in March, 1921, when a diagnosis was made of "indigestion," but, as the doctor said, 'with mental reservations." A fortnight later he had five attacks of severe angina arising in the same area and accompanied by pain extending from the tip of each shoulder down the arms to the thumbs. He thought he was dying during the acme of the attack and was left emotional and depressed.

It would be easy to relate many similar instances where the slight and transient symptoms were followed by the overwhelming distress of unquestioned angina.

The only safe course is to view with suspicion everyone over middle age whose "indigestion" is induced by effort or exposure to cold, and fades away on the cessation of stress or when the patient gets comfortably warm. Such a history calls for careful examination of the whole cardio-vascular system. This discomfort is usually substernal, a sense of tightness over the lower third of the sternum, sometimes confined to the area of the xiphisternum, more rarely definitely localized in the epigastrium, "the pit of the stomach." This feeling of weight or oppression may be transient or of some duration. It may be the precursor of a devastating seizure or jog the memory of the patient and remind him of a former and terrible experience. The peculiar feelings of imprisoned flatus lodged behind the lower third of the sternum, or the sensation of food having "stuck on the way down," are suggestive.

It is often true that with these substernal sensations there is an element of ill defined uneasy apprehension. I have seen sixteen patients in whom the pain was definitely localized in the epigastrium, or took the epigastrium as its starting-point—spreading upwards behind the sternum if the patient persisted in the effort which induced the pain. It is no adequate explanation to pass this off as being in every case nothing more than hepatic or other colic, though I admit that such an error in diagnosis does occur, and this possibility must be carefully considered. In one most typical case of epigastric angina, in which an autopsy was made, the stomach, duodenum, and gall bladder were found free from any disease.

It should be remembered that even when pain in the epigastrium is the dominant feature of the anginal attack, there are often additional symptoms, such as cramp-like and other sensations in areas indicating the cardiac origin of the epigastric pain, which in doubtful cases would help to clinch the diagnosis. The associated phenomena may

only appear when the effort inducing pain is continued in spite of the warning initial distress, and as the patient improves under treatment physical effort may fail to do more than provoke the primary epigastric ache. A few examples may be quoted:

(3) A male, aged 64, with a high blood pressure, experienced a dull aching pain in the epigastrium whenever he walked fifty or more yards, followed by pain between the shoulder-blades, principally to the left of the spine. Simultaneously he felt an aching and numbness down the outer side of the left arm with occasionally an aching in the neck on each side of the larynx and trachea. (Fig. 4.)

(4) Male, aged 52. In this patient walking brought on severe pain in the epigastrium at "1" in the figure. (Fig. 5.) He experienced a sensation of being constricted in that area. This pain passed through to the back about the level of the angle of the scapula and was felt there as a broad horizontal band. It then spread over the front of the chest—area indicated by 3—and a cramping pain passed down the left arm in a narrow strip to the thumb. An attack lasted three to fifteen minutes and caused him to break out into a cold sweat. Under treatment the attacks became much less frequent and markedly less severe with great diminution in the area involved. The pain became focused in the epigastrium. The acute pain in the chest and the cramp-like feeling down the arm were no longer induced by effort. He died sixteen months after coming under observation.

The description given by patients of their epigastric sensations varies considerably. It has been described as "pain and tightness with a gripping sensation" which disappears on "easing off"; "an awful pain, induced by hurry, worry, or excitement." In another man the pain

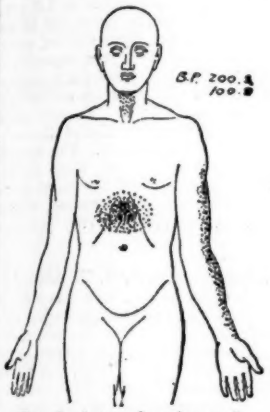

FIG. 4.—Area of pain and tenderness induced by walking 50 yards; also pain in the back.

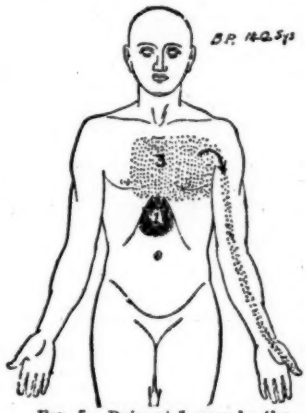

FIG. 5.—Pain at 1 may be the only response to effort.

was in the xiphisternal area and an inch or two below—"Pain, tight and very severe attended by apprehension, with numbness in the arms and once or twice accompanied by vomiting."

The following case combined several features of interest in prognosis:

(5) J. J., aged 56, compained of pain in the pit of the stomach when he walked. This pain, which was not severe, passed up a few inches behind the lower third of the sternum and simultaneously he experienced a sensation of numbness and weakness in the left arm. (Fig. 6.) During an attack he was conscious of a difficulty in breathing, but there was no increased frequency in respiratory movements. He was a big hefty man weighing over 15 st. The blood pressure was within normal limits, and there was no evidence of valvular disease, though the heart was moderately enlarged. Area of cardiac dullness five inches to the left of mid-line, and the peripheral vessels definitely sclerosed. His symptoms dated from an attack of influenza some nine months previously. The pain was never agonizing, nor was there any fear of impending death. He had noticed that the attacks became more and more easily induced. The electro-cardiogram showed the typical diphasic complex of branch bundle lesion.

Here was a man who had never had any severe or devastating pain, and in whom the chief site and area first to be attacked was the epigastrium. The pathological lesion was progressing and there was an ominous abnormality in the electro-cardiogram. He had a month in bed with apparent benefit. The attacks became fewer in number and less easily induced. However, seven weeks from the date of his first visit he died in a severe attack of major angina which lasted an hour, and which came on while he was lying placidly in bed.

The erratic or eccentric anginas may take some peculiar forms. In each, however, the symptoms are associated with effort and tend to diminish on cessation of the exciting cause. Sometimes the first and possibly the only discomfort is felt in the face, neck, or wrist. In other patients a fullness and sensation of bursting in the eyeballs is the first response to physical strain. The pain may begin in the back between the shoulders and, as in a man of 57, pass across the axilla round to the right nipple area, and extend down the right arm as far as the elbow. This man, after many attacks similar to the above, died in a severe seizure seven months after coming under observation.

When the pain appears to evade the sternal area and is focused in one or other shoulder and upper arm, possibly in the elbow or wrist, it is not uncommon to find that the patient has been under treatment for neuritis or muscular rheumatism. Careful cross-examination usually elicits a straightforward statement that these scattered pains bear a definite relationship to physical effort, and sometimes a history of one or more attacks of frank angina can be obtained.

(6) W. P. H., a man of 75, for the last eight years had suffered from attacks characterized by a feeling of tightness behind the sternum and a sensation of discomfort sometimes becoming *almost* a pain, which tended to spread to the left shoulder and down to the elbow. Walking uphill or against a wind would induce this discomfort. Latterly the pain had been more easily excited, and on one or two occasions within the last six months had occurred while the patient was in bed—always an ominous sign. When the pain was present his breathing was quite easy and there was no element of apprehension. Physical examination showed a systolic blood pressure of 160 mm. Hg, and a diastolic pressure of 80 mm. Hg; the size of the heart was within normal limits, and there was no variation in sounds. Heart rate 80 per minute. He was apparently a healthy man with the exception of this discomfort, a discomfort which was clearly that of minor angina. It was only in the last

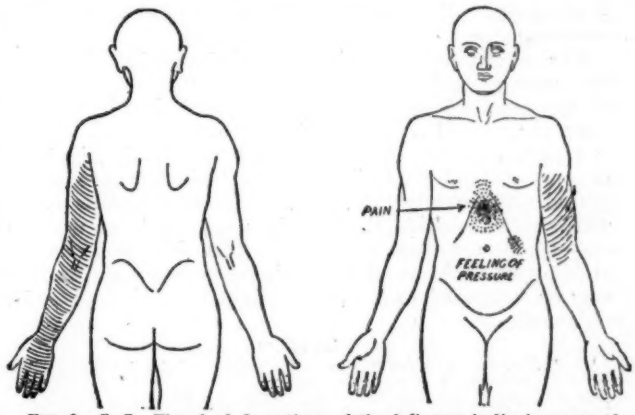

FIG. 6.—J. J. The shaded portions of the left arm indicate areas of numbness, dull pain, and weakness.

twelve months that the symptoms had in any way forced themselves upon his notice, though, being an extremely careful man, he had sought advice with regard to them eight or nine years ago. In the end he was seized with major angina, which lasted off and on all through one day, ending fatally.

The following history of four brothers is worth recording as an excellent example of the familial liability and its importance, while it emphasizes some of the points we have been discussing. The father died at 83, cause unknown. The mother died at 62 from a stroke. She had suffered from an initial stroke three years previous to her death. I have notes of the four brothers, three of whom I have seen.

(1) In November, 1919, I saw J., the first, aged 60½. He complained of pain, epigastric in site, brought on by walking. Five years earlier, when this pain first began, he was treated for indigestion. Latterly the pain had radiated upwards from the epigastrium into the jaws and throat, and to a point just inside the left elbow. This last pain occurred independently of the thoracic disturbance. Systolic blood pressure 160 mm. Hg, with pulsus alternans—indicating a grave prognosis. He died suddenly in an attack of angina in December, 1921.

(2) The second of the four brothers, A., aged 56, complained in February, 1920, of tightness on breathing, especially after walking, and a sensation of a "swollen lump" under the left nipple "too big for the chest"; also of pain which he described as indigestion situated at the angle of the left scapula, independent of meals, but induced by effort. Pain spread from this area into the left arm and down to the elbow. He gave a history of syphilitic infection in youth, and he had noticed that the present anginal symptoms dated from an attack of influenza in June, 1919. There was a moderate degree of arterio-sclerosis and the systolic blood pressure was 190 mm. Hg. Since Christmas last he had suffered from an aching smart in the left arm and middle fingers, and in April his symptoms became more severe for a while, especially the bursting sensation over the cardiac thrust. The rate of the heart was then 72 per minute, the systolic blood pressure 200 mm. Hg, diastolic 110 mm. Hg.

(3) Another brother, T., aged 62, consulted me in December, 1919. He was not conscious of any limitations; could dig, walk, and work.

But he was apprehensive because he knew that his three brothers suffered from anginal symptoms. I could find nothing wrong—heart normal, rate 88 per minute, systolic blood pressure 150 mm. Hg; but in view of the family history I cautioned him against excessive effort. In November, 1920, eleven months later, he had two terrible attacks of angina. He is still alive and feels in excellent health, and he has had no severe pain since November, 1920, but he has "reminders" if he hurries or is flurried. "A form of acute indigestion, if you understand me," was his description, the pain being substernal, about the level of the nipples. It passes away at once if he stands still.

(4) The *fourth* brother is 61 years old. He has not consulted me, but his doctor tells me that for five years he has suffered from anginal pain in the left arm, and in the beginning of June last he had a severe attack.

This is a remarkable series. The earliest symptoms were of significance, also the sense of oppression caused by walking, the sensation of something too big for the chest, the pain about the angle of the scapula labelled "indigestion," the epigastric pain brought on by effort, and in one of the four the dramatic and fatal major attack preceded for seven years by varying manifestations of angina minor.

I have attempted to review our position when faced by patients suffering from angina who ask to be told what the future holds for them. I have tried to discover where help and guidance are to be found in estimating the mortality, knowing only too well that there can be no certainty about the outlook. It is admittedly brighter, however, in proportion to the degree of sensitiveness of the central nervous system, and becomes correspondingly graver when evidence is obtained indicating disease or degeneration of the myocardium.

The electro-cardiograph yields informative evidence of this nature, and it is found that the mortality in a series of patients is higher when certain well defined deviations from the normal electro-cardiogram are present.

Again, prognosis is often at fault because the significance of some of the slight and earlier manifestations are misinterpreted. These minor anginas have certain characteristics which should enable them to be recognized for what they are—symptoms often unobtrusive, yet significant and only yielding up their secret to careful cross-examination. They may be compared to a gesture, slight but ominous, and full of menace.

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INJURY TO THE SPLEEN: DELAYED HAEMORRHAGE.

BY

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THE following case has seemed to us worthy of placing on record on account of the unusual features which it presented.

History.

The patient, Mr. S., a powerfully built man of 23, was returning home on his motor cycle about midnight on September 5th, 1923, when he met with an accident. Exactly what happened the patient himself could not tell, but he thinks that his lamp went out, that his machine struck a bank at the side of the road, and that he was heavily thrown. He managed to crawl to a neighbouring house, where he was kept till the following morning, when he was conveyed to his lodgings about twelve miles away. He was seen shortly after his arrived by C. R. T., and though he was apparently quite conscious at that time, the patient stated that his mind was an absolute blank from the moment of the accident until the following afternoon. A careful examination by C. R. T. failed to reveal anything more than severe bruising of the back, chiefly in the neighbourhood of the left iliac crest. After examination he walked to his father's house, some hundreds of yards away. He was kept in bed and visited daily and there seemed to be very little the matter with him.

At 1 a.m. on September 9th, in response to an urgent summons, C. R. T. visited him and found him suffering from very severe abdominal pain; pulse 120, temperature 101°. The abdomen was greatly distended. The bowels had not acted since before the accident, but flatus had been freely passed. A soap enema yield[ed] no result. He was seen again at 9.30 a.m., when the pulse [had] fallen to 104 and the temperature was 102°; he was easier, [but] as the bowels had not yet acted it was thought advisable to [send] him to the Lloyd Hospital, Bridlington. He walked downstairs [to] the cab, and on reaching the hospital walked to the ward. A [soap] enema was given immediately after his arrival, and a perfo[ra]colossal evacuation resulted. He was seen again in the evening [and] found to be quite comfortable and both pulse and temperature [were] settling satisfactorily. On September 10th he was quite well [and] comfortable, and in the evening a dose of castor oil was given.

The following morning, September 11th, he appeared to be [in] particularly good spirits, joking with the nurses and asking [for] more food. About 9.30 a.m. he was seated on the bed-pan when [he] suddenly collapsed into the bed, the radial pulses vanished, and [his] face assumed an ashen hue. He was seen (for the first time [since] the accident) by C. J. G. T. at about 10.15 a.m. He was then in [a] state of profound collapse, his extremities were cold, his [colour] ghastly, and no pulse could be felt; the lips were blanched, but [he] was not restless. There was no distension of the abdomen, [no] tenderness, no local or general rigidity, and no dullness in the flan[ks] but liver dullness was completely absent. There were no abnormal signs in the chest. It was thought that internal haemorrhage might be taking place, but there were no signs to indicate where. In any case he seemed to be dying, and the giving of an anaesthetic at [that] then was was entirely out of the question. The foot of the bed was elevated, but in view of the possibility of bleeding salines were [not] given. He was seen by C. R. T. at 12.15 p.m.; his pulse was [just] palpable (92), but the colour was still very bad; he was not at [all] restless and there were no abdominal signs. At 1.15 p.m. the pulse was 84; there was acute tenderness and board-like rigidity of the epigastrium. Liver dullness was still absent. As a history of "indigestion and flatulence" had been volunteered by a relative, a tentative diagnosis of perforation of a duodenal or gastric ulcer was made. C. R. T. and C. J. G. T. saw him together at 2.15 p.m. when his general condition was substantially the same, but he was now extremely restless, almost violent, rolling about the bed, groaning and complaining of acute abdominal pain. It was impossible to examine him at all carefully as he would not lie still for a moment, seeming to find greatest relief when lying curled up on his right side. He was still in a state of extreme shock. In view of the circumstances it was agreed that laparotomy offered the only, though an exceedingly slender, hope of recovery. The extreme epigastric rigidity and tenderness with loss of liver dullness appeared to justify a diagnosis of perforation of the bowel in the upper abdomen, probably either duodenum or stomach, though we were completely at a loss to account for the very prolonged stage of shock.

Operation.

The abdomen was opened at 4 p.m. by C. J. G. T., assisted by C. R. T. The anaesthetic, CE, and open ether, was administered by Dr. H. J. S. Morton. The incision was made through the right upper rectus, but as soon as the peritoneum was exposed it was clear from the dark discoloration beneath it that a considerable haemorrhage within the abdomen had occurred. There was a great rush of blood when the parietal peritoneum was divided. This was hastily mopped away and a rapid examination of the stomach, duodenum, liver, colon, and mesenteries showed that the origin of the bleeding was not in any of these organs; it then became evident that the blood was passing upwards and forwards from the left hypochondrium. The spleen was palpated and a rent in the posterior surface at the lower pole was felt. The original incision was accordingly closed in layers as quickly as possible and speed being now absolutely essential, the splenic region was approached through a subcostal incision parallel with the costal margin, the muscles being cut right across and no attempt made to separate their fibres anatomically. No difficulty was experienced in delivering the spleen into the wound, and the tear could then be seen, resembling a deep puncture measuring about half an inch in diameter and extending for about one inch into the pulp of the organ. As soon as clamps had been applied to the pedicle intravenous infusion of saline into the left arm was commenced by C. R. T. and continued until the operation was completed. The spleen was quickly removed, the pedicle securely ligatured, and the wound closed by through-and-through silkworm gut sutures reinforced by an intermediate continuous layer of strong chromic catgut which included peritoneum, muscle, and aponeurosis.

The Spleen.

On examining the spleen after removal it was seen that, in addition to the tear already referred to, there were two quite extensive linear tears of the lower pole, each of them measuring fully an inch in length, involving the parenchyma of the spleen but not the peritoneal coat. There had been some small amount of bleeding from both of these, stretching the peritoneum but not causing it to give way. The largest tear easily admitted a finger-tip.

Subsequent Progress.

The patient quickly rallied after the operation and the administration of rectal salines, but for some days he was extremely troublesome, throwing himself about in complete abandon, trying to get out of bed, and so on. The abdomen was considerably distended for forty-eight hours, but pituitrin injections and turpentine enemata brought relief, the size of the stool being again a matter of comment. The temperature was irregular for a couple of weeks, but both wounds healed soundly, and he left the hospital exactly four weeks after the operation. A blood count taken the day before he was discharged showed: Haemoglobin 90 per cent., red cells 3,700,000, leucocytes 10,300. Differential count: Polymorphonuclears 69 per cent., lymphocytes 20 per cent., large mononuclears 7 per cent., basophiles 1 per cent., eosinophiles 3 per cent. There were no abnormal red cells.

Comments.

The case is rather extraordinary on account of the long latent period between the accident and the onset of acute symptoms. In the light of later knowledge it seems possible that the meteorism and acute pain of the early hours of September 9th may have been due to some bleeding taking place, but it could only have been very slight in amount as no obvious signs of internal haemorrhage were caused. The first real signs, and these exceedingly sudden and severe in their onset, were delayed until the morning of September 11th—that is, more than five days after the original injuries were sustained. We have not been able to make any very exhaustive survey of the literature, but certainly none of the well known textbooks of surgery which we have consulted make any mention or give so much as a hint that such a latent period as this may occur after injuries to the spleen.

Our theory—for what it is worth—as to the train of events in the case is as follows: When the accident occurred, the first impact caused a violent blow in an upward direction directly on the lower pole of the spleen. This blow was probably caused by the point of the handlebar driving upwards beneath the ribs. The rider was then shot clear and in his fall sustained those bruises to the back which at first appeared to be his only hurt. The violent blow to the spleen caused the pulp to tear in the three places found at operation, but did not tear through the peritoneum, which, as it were, acted as a tourniquet to the injured surfaces and prevented anything more than a slight subserous haemorrhage. What determined the sudden violent bleeding on the morning of the sixth day must have been the giving way of the peritoneum over the largest tear; the haemorrhage here had probably been more extensive and the peritoneum thus weakened by stretching. The extra rise of intra-abdominal pressure caused by the act of defaecation may well have brought this about. It is difficult to find any explanation for what happened in the early hours of September 9th, unless there was a very small leak of blood into the general peritoneal cavity sufficient to irritate and set up the enormous distension of the bowel, but quickly sealed off again.

Another interesting point is that the blood nearly all tracked forwards in front of the stomach and colon; very little found its way into the lower abdomen and the pelvis or into the left flank, hence the absence of any noticeable dullness when that point was being investigated. The track of the blood rendered the finding of the bleeding point a great deal more easy, so that this was a very fortunate circumstance.

British Medical Association.

PROCEEDINGS OF SECTIONS AT THE ANNUAL MEETING, 1923.

SECTION OF NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

Henry Devine, O.B.E., M.D., F.R.C.P., President.

PRESIDENT'S INTRODUCTORY REMARKS.

The subjects selected for discussion cover a wide range and on the surface they appear to bear but little relationship to one another. This is not actually so, however, because they are all closely concerned with alterations or abnormalities of behaviour, and they are thus subjects of interest to neurologists, physicians, psychiatrists, and general practitioners. In the first place we shall consider those children, of whom there appear to be an increasing number, who are difficult, awkward, and sensitive; who react to life in an unusual and perplexing way; and who constitute a problem to parents, doctors, and teachers. Then we shall discuss an infective disorder, lethargic encephalitis, which is of peculiar interest and importance because it is liable to be followed by profound alterations in the personality. This subject is closely related to the one which will be discussed to-day, because the mental sequelae of lethargic encephalitis are particularly marked in children and include changes in temperament and moral character, instinct perversion, and dementia praecox-like states. Here it is possible to trace an intimate connexion between demonstrable biological disturbances and changes in behaviour; and this serves to remind us that what we call our "mind" is somehow or another embodied in the cells of our organism, so that when there is some alteration in reactions, attitudes, feelings, or thoughts we should not omit to seek for explanations along objective and biological lines. The last discussion on our programme deals with youth rather than childhood, and consideration will be given to those tragic breakdowns of young people whose lives often seemed so full of promise, and whose mental illness only too frequently ends in permanent and profound deterioration. I now wish to observe that those of us who spend our lives with cases such as these realize that, in many instances, we are not dealing with acute mental illness, but with the ultimate expression of morbid tendencies which have been developing since childhood. As psychiatrists we cannot undo the past, and I am convinced that it is in childhood that most can be done to prevent these "sensitives" from developing into psychotics during adolescence; it is in childhood that faulty habits of reaction and morbid tendencies stand the greatest chance of correction. It may be that in some instances, we do not know how many, these illnesses are the outcome of a biological inferiority; we should not regard them as inevitable, however, because we do not yet know how much can be done by treating the potential psychotic from early days and directing his life in the most suitable lines. Psychiatry is not the narrow specialty it used to be, and the psychiatrist is no longer compelled to plough a lone furrow or to solve unaided the most obscure problems of medicine. Perhaps we may look on this meeting as the symbol of the changed attitude of the medical profession to psychological medicine, which is now recognized to include the study of all abnormalities of behaviour however trivial they may seem. We have at this meeting a children's physician, a neurologist, and a psychiatrist who will introduce discussions on varying types and varying causes of abnormal behaviour. It is only thus by full and complete co-operation that we shall begin to solve our manifold problems.

DISCUSSION ON THE NERVOUS CHILD.

OPENING PAPER

BY

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It is no easy task to open a discussion upon a subject of which the boundaries are so ill defined. Indeed, I can conceive of only one undertaking which is harder—to bring it to a close—and I understand that both these tasks have fallen to me. A parent, a pedagogue, a priest, a physician, a psychologist will each view the subject differently and raise different issues.

I propose to confine my opening remarks to two aspects of the question. I desire to place before you a description of certain peculiarities of physique and of posture which seem to me very constantly to accompany nervous instability in children. Secondly, I propose to examine briefly the rôle which parental management plays in provoking or controlling the particular abnormalities of conduct for which our advice is sought.

The Physical Aspect of the Nervous Child.

It is not often that good physique, a confident carriage, and a satisfactory circulatory system are found in com-

bination with a restless and unstable nervous system. How large a proportion of sufferers from deformities such as flat-foot, scoliosis, or knock-knee are at the same time afflicted by a variety of functional disorders! But apart from these particular defects there is something about the carriage, bearing, and posture of the nervous child which arrests attention at the first glance. The nervous adult may by an effort square his shoulders and assume a confident air which may deceive. With the young child this is never so.

The Amyotonia of Nervous Exhaustion.

In most nervous children a want of tone in the skeletal muscles is so prominent a feature that a characteristic stance and posture result. The amyotonia affects especially the muscles which are concerned with the retention of the upright position and whose tone is constantly at work to counteract the action of gravity. Sherrington has shown that certain muscle groups especially serve this specific purpose. The stance of the nervous child may be described as the opposite of that which the drill sergeant inculcates so vigorously in the recruit, and it is to be noted that although the routine of drill at first sight appears to aim at a purely physical effect, experience shows that by achieving a confident carriage and a greater precision of movement, the recruit acquires what is more important—courage, promptitude, and presence of mind. As the recruit stands the head is held erect, the chest is expanded, the abdomen is retracted, the feet are close together and the body is inclined a little forward so that a vertical from the centre of gravity falls in front of the feet.

The stance of the timid and nervously exhausted child provides the contrast to this remedial and curative posture adopted in drill. The trunk is not braced by the muscles of the back. The weight is rather balanced upon the stance than supported by muscular tone. The feet tend to be separated. The shoulders are carried far back so as to bring the centre of gravity directly above the feet. There therefore develops, as in the amyotonia of a primary muscular dystrophy, a considerable degree of lordosis, while a secondary and compensatory curve in the cervical region becomes necessary to bring head and eyes forward into line. As a result of the lordosis the abdomen is pushed forwards into undue prominence while the chest recedes. Similarly the amyotonia of the shoulder muscles allows the weight of the dependent arms to depress the points of the shoulders, to separate the scapulae and to evert their inner border. Movement is often awkward and inco-ordinate, and a too great tendency to tumbles is a frequent complaint of the mothers. As in the greater weakness of a primary muscular dystrophy, there is relatively less power than normal of regaining balance by a sudden movement which averts a fall. This posture, resulting from the weakness or exhaustion of the "antigravity" muscles, appears designed to substitute for the support of muscular contraction a support which is maintained by balancing the weight upon the stance and which involves an exaggeration of the normal postural curves of the spine. Even so the maintenance of the upright position is clearly fatiguing for the children. They tend to lean against any support which offers—a wall, the table, their mother. They are constantly being urged to stand erect or to sit upright. The taller the child, the more striking is this failure to accommodate to the upright position. Under the age of 6 the lordosis is seldom very noticeable.

As a rule in these children the small muscles of the face and hands which serve to express emotional states are in constant movement and overplay, the lips twitching, the forehead wrinkling and the fingers writhing and plucking. In some of the worst cases, however, the absence of facial play has been very striking, while the expression has been that of complete exhaustion and apathy. Sometimes the child seems to have lost for the time being the desire or the power to initiate voluntary movements at all, and the limbs will stay passively for many minutes at a time in whatever position they are put. Confidence, precision of movement, endurance, and repose may be said to be muscular virtues, just as a timid, coward stance, proneness to fatigue, restlessness, and inco-ordination may be regarded as muscular vices. The posture and the movements of the child are a subtle index of the state of the nervous system.

Pallor.

The myatonia of the nervous child is not confined to the skeletal muscles. It clearly involves also the muscles of the heart and of the blood vessels. Complaint is often made of pallor, constant or intermittent. After excitement or exertion, specially when the body has been upright for any length of time, the blood is prone to fall away from the surface of the body, leaving the face pale and drawn with dark lines under the eyes. As a result of this vasomotor anaemia the face has imprinted upon it a look of ill health which not only alarms the mother but provokes constant comments from her friends and relatives. The subjective sensations of the child clearly vary with the circulatory reactions in the skin, and when the pallor is extreme the complaint is usually made that the child lies about listlessly, is without appetite and appears depressed or tearful.

Albuminuria.

A postural or lordotic albuminuria is frequently found if routine examination of the urine is made. It seems to me in the highest degree unlikely that the lordosis acts mechanically, as has been maintained, by the production of pressure upon the renal vein. I have been unable to substantiate the statement that by inducing lordosis by means of a plaster jacket in a healthy child it is possible to produce albuminuria even in the recumbent posture. It appears more reasonable to conclude that lordosis and albuminuria are alike symptoms of the failure of the mechanism by which the force of gravity is counteracted. It is usual to find that the feet and hands are cold and cyanosed.

Abdominal Pain.

Complaint is often made of attacks of abdominal pain and sometimes of vomiting, synchronizing with the attacks of pallor and due generally to emotional excitement or fatigue. Now that operations for what is termed "chronic appendicitis" are frequent, it is not unusual to find that a child, complaining of these symptoms, shows the scar of an appendicectomy operation. Syncopal attacks, breathlessness, palpitation, extra-systoles, and train sickness are other complaints which occur with great frequency in my notes of cases. If we encounter these children, so nervous, so excitable, so easily exhausted, with their faulty posture and unstable circulatory reactions, and observe them solely with the eye of a cardiologist, we shall describe them as suffering from "cardio-vascular asthenia" or the "effort syndrome."

Enteroptosis.

If, on the other hand, we are more impressed by another group of symptoms to which I shall refer, we shall see them as they grow to adult age become candidates for the operation of colectomy or colopexy. With the passage of years, and the permanent fixation of the postural defect, it is not difficult to demonstrate the increasing tendency to enteroptosis, due to the faulty postural reaction to gravity and especially to the peculiarly lax and toneless abdominal musculature. Constipation is a frequent symptom, but I do not think we do a service to our understanding of the condition by attributing either to the constipation or to the cardio-vascular asthenia a too great etiological importance.

Proneness to Catarrh.

Further mention must be made of the low immunity which this type of child possesses against the common catarrhal infections. Cold-catching children seem to me to be divisible into two groups: those in whom we find enlargement of tonsils and adenoid vegetations, with chronic infection of the nasopharynx; and children who continue to catch cold in spite of repeated operations upon the nasopharynx, in whom the fault lies in the weakness of the vasomotor defences. When the skin of a child is glowing and warm from exposure to wind and sun, colds are seldom caught, but even a strong man is prone to contract an infection when his vasomotor tone has been weakened by too great exertion or when he has been struck down by

Fig. 1.

Fig. 2.

Fig. 3.

Figs. 1, 2, and 3, illustrating the weakness of the "antigravity" postural muscles which commonly accompanies nervous exhaustion or instability in children. The axis vertebra is in a vertical line above the heels, through which, rather than through the ball of the foot, the weight passes. The knees are hyperextended. There is a pronounced lumbar lordosis and a secondary forward curve in the upper dorsal and cervical region. The thorax is flattened from before downwards, the shoulders are depressed, and the vertebral border of the scapula is prominent. Fig. 1 shows the condition in maximum degree, Figs. 2 and 3 to the extent which is commonly met with.

some great grief. The aspect of these frail and debilitated children is not unlike that which may result in all of us after some exceptional strain, and the vasomotor collapse carries with it an increased tendency to infection. Of the deleterious result of infection in nervous children I need not speak. Each new pyrexial attack leaves behind it a visible increase in restlessness, in exhaustion, and in muscular weakness. From such a child, not every possible, but every proved, source of infection should be eradicated.

Irregular Temperature Curve.

Finally, I think there can be no doubt that it is in this type of child that we encounter a failure to achieve the monothermia of health. The skin temperature varies with the vascular reaction in the skin. When the child is pale and exhausted subnormal readings are the rule, but when flushed with excitement the reading often rises to 100° or even higher. An evening rise of temperature is not uncommon, and must not, I feel sure, be regarded as proof that the fear of consumption, so often aroused by the aspect of the child, is justified.

The Origin of Particular Nervous Symptoms in Particular Faults of Parental Control.

The study of the nervous child is to a great extent the study of his parents and of the powerful influences for good or evil which proceed from them to an unduly susceptible child. It is essential to realize the intimacy of the relationship between the mother's mind and the child's. However keenly interested we may be in the ailments of children as seen in hospital, and however skilled in their treatment, we shall fail altogether in the home if we do not appreciate or cannot control this influence of the mother which separates us from the child. In hospital we may learn much of the physical ailments peculiar to children; of functional nervous disturbances we shall see very little. The trained nurse, when she leaves the hospital and begins work in the homes, finds herself faced with new and strange problems, and it is not surprising that her want of resource in dealing with them is sometimes plain to the mother and a subject of complaint against her. How frequently, for example, do we encounter an absolute and successful refusal on the part of the infant, for many days, to leave its mother's breast and to take food offered in cup, spoon, or bottle. In hospital this difficulty, real and almost insurmountable in the home, is never encountered, and the proffered substitute is meekly accepted. A study of the child remote from the mother gives as a rule negative results. To see them together, to note the response of the child to the maternal traction, alone provides information. Let us examine some of the ways in which these influences proceeding from the parents show themselves in the conduct of the child.

The Suggestibility of the Child.

Consider first how open the young child is to suggestions of all sorts. He is quick to form ideas as to what is or is not characteristic of himself, yet at the same time he is without power of self-discrimination or self-analysis. He sees himself only in the eyes of his elders. Whatever is thought of him, said of him, even feared for him, that he rapidly becomes. The symptoms of functional nervous disturbance which are most rife among nervous children are those about which the mind of the ordinary mother is most preoccupied. They concern the sensitive digestive system and the urinary apparatus. Paralysis, anaesthesia, spasm are rare, and they are rare because it is not such disasters that are foreboded for the child. On the other hand, anorexia nervosa, nervous vomiting, pica, bulimia, polydipsia, constipation, nervous diarrhoea, enuresis, frequent micturition, and retention of urine are amongst the most common complaints. When a whole household is openly distressed by a child's refusal of food, by a failure to get the bowels open, or by a loss of control over the bladder, the child quickly catches the feeling of anxiety and distress and himself grows anxious and apprehensive about the matter. The mothers of nearly all children with persistent anorexia or enuresis are unduly despondent and pessimistic, and when maternal confidence departs maternal competence goes with it. The complaint that the child never has and never will eat, or that the bed is always wet, is repeated again and again with such conviction that the child doubts it no more than the mother and his behaviour is influenced accordingly. To reverse the suggestion is often straightway to produce a cure. To take an obvious pride in his increasing appetite and in the improving urinary control, to comment delightedly in his hearing upon his voracity and his continence is the only way to help. It is in general not what one says to children

that matters at all, but what one says of them. Failure is to be taken lightly. It is the occasional success which must arouse all the interest and remark.

Undue timidity is perhaps the commonest fault of the only child. For him, the only one, so much is feared. Wherever he goes the air is full of warning. It is natural that he should interpret this excess of precaution as indicating the constant presence of danger. As the big dog approaches the child, it is enough to make a little movement of protection to arouse in him the sense of danger. It is the parent who has unconsciously uttered the warning call. On the other hand, as Dr. John Thomson has pointed out, foolhardiness no less than timidity is a reaction to faulty management. We all of us know children who are constantly performing strange and perturbing actions, climbing to great heights, running away from nurses, and so forth, and as the parents record the dreadful deed we are yet conscious all the time of a note of pride in the wrong-doing. We have the feeling that they are convinced that no ordinary child would have had the foresight to plan and the daring to carry out so wild a project.

Without some knowledge of those who are responsible for the management of the child, his conduct must often appear inexplicable. Very often the cause of the disturbance will be traced to the parent, its reflection only found in the child.

Negativism in the Child.

The nervous, irritated, dominating child is prone to kick against the pricks. Many of the functional nervous symptoms for which advice is sought may be explained as due to "negativism," to the opposition set up by the child against the constant and too obvious traction exercised by the mother or nurse. Negativism grows and flourishes with a fault of management to which I think we are all prone. It does not occur in the children of parents who are self-confident and masterful, who habitually expect and receive implicit obedience. Nor does it occur when the mother is one of those placid light-hearted people who never bother, and to whom punctuality and tidiness and the state of the drawing-room furniture seem matters of very little importance. The negativistic attitude in children is aroused only when there are frequent and repeated attempts at control and a constant failure to achieve it.

It is especially, I think, when parents are tired and overwrought that they fail to get the unquestioning obedience which seems so desirable and so unattainable. It is not so much what is said as the tone in which it is said that matters. It is the mother's emotional state which is at fault. She is conscious that she has lost or has never had the power of controlling the child. In the struggle her strength is weakened by the fear that she will fail or the consciousness that she is failing. Children have no knowledge of the moods of their parents, though they may respond to them with almost uncanny certainty. With many women when domestic life proceeds smoothly, control in the nursery may be effective enough. It is only when the mother has lost her peace of mind that refusal of sleep or refusal of food or refusal to go to school becomes a formidable difficulty. If reproofs and appeals and unheeded expostulations are constantly passing from the mother, the child responds by developing what we call negativism. The common refusal of food is very often the response of the restless and irritated child to the excessive urging of mother and nurse. It is instructive to note that among the poor under similar conditions we often encounter the opposite fault. In these poor homes the price of food is not a negligible consideration. The child demands what the mother has not got. In response to his constant clamour the food is doled out grudgingly, with many comments on the vastness of his appetite. The child develops a habit of scavenging in the débris left by the other children. The neighbours come in to behold so prodigious an eater. Similarly, of eight cases which have been brought to me complaining of insatiable thirst only one had diabetes. In the other seven the demand for fluid grew only as a result of the obvious reluctance with which it was conceded and the obvious precautions which were taken to prevent him getting it for himself. Two of these children had drunk dirty water from pails used in washing the stairs.

I quote these experiences because I think they throw light upon the origin of the common nervous refusal of food among the children of the better-to-do. The child is urged and entreated to eat, while his refusal gives rise to clearly expressed distress and alarm. Often only those articles of diet are taken with relish which are doled out sparingly because they are considered indigestible or unsuitable. If a strong-minded woman with uplifted spoon attempt forcibly to administer the amount decided upon, retching and vomiting commonly results. I have known a child who would pause in his play and vomit as soon as his nurse produced the white tablecloth for the nursery table, a signal of the coming struggle.

Anorexia nervosa of this sort is peculiarly prone to develop during the time when attempts are made to substitute a mixed diet given by spoon for the milk diet from the bottle. More than one mother has painted for me the following picture. To her infinite distress she found that she could not induce the child to take food, in spite of blandishments and many struggles. A trained nurse, a grandmother, even that arch-authority a hospital sister, coming into the house, each in turn proved unsuccessful. Finally the child more often than not would refuse even the bottle. Only when asleep was it possible to feed him. Armed with the bottle of food, the mother would creep to the side of the cot and wake him just sufficiently to induce suction. If she overdid it, if consciousness completely returned, instantly the bottle was pushed away and the cry "No! No!" broke out.

A boy of 10 was brought to me with the story that for some time past he had lived entirely on water biscuits. After the usual examination and a long talk with his father and mother, I found myself explaining what I meant by negativism. The father interrupted to corroborate in this way. The boy, he said, was often sick in trains, and so, as he journeyed to see me, they decided that he had better keep out of the luncheon car. He said he had never felt so hungry. Allowed to join his parents, he was given the smallest possible helpings for fear of the dreaded train sickness. In the result the father and mother agreed that the boy had then and there eaten a dinner such as he had not eaten for many years. Unconsciously on this occasion the suggestion with which the food was proffered had been reversed and with it the child's conduct.

It would not be difficult, I think, to show that this almost insane tendency to oppose plays a great part in the development of many of the symptoms of nervous unrest in the child. Its treatment calls both for a tightening and for a relaxation of discipline. The parents and nurses must pass more into the background and allow the child free play. The cords against which he is straining must be released. Only rarely should the parent make a stand and insist, and then the intervention should be in irresistible force. No child who is habitually upbraided can respect himself. To indicate displeasure to a child ought to be a momentous thing not easily passed over. It is significant that the first words which many children utter are words of reproof, "naughty" or "dirty," and even before he can speak he can scold himself with gusto in the tones of his elders.

The Child's Love of Self-Assertion.

Closely connected with the child's proneness to the influences of suggestion and with his desire to oppose, is his instinct to assert himself, to attract attention to himself, and to make himself the centre of the picture. It is often the desire of children to produce what the newspapers call a "sensation" which leads to particular disturbances of conduct. The natural sense of inferiority which they feel in the presence of their elders normally leads to shyness, or with certain temperaments it is compensated for by means of what is called "showing off." In showing off we have an exaggerated desire to attract notice, and the devices adopted to achieve this end are innumerable and often

perturbing. The particular form which the persistent effort to attract attention takes is not dependent in the least upon inherited peculiarities of disposition or tendencies to sinfulness but upon the personalities of those who are in charge. The crying child who endeavours to gain his way and dominate the household by the strength of his lungs is always the child of parents who are unduly distressed by his crying. The child who is "jealous" of his baby brother and who makes ceaseless attempts to do him damage is often the child of a mother who is unable to take him fearlessly to the newcomer. He is aware that the best way to attract attention to himself is to threaten his successor. Like the insane, the nervous child seems forced to do that which most distresses those who most love him, and he is commonly possessed of an almost uncanny sense of the vulnerable points of his parents.

A mother brought her little daughter of 12 to see me. "A charming child," she explained, "in every way, except for a morbid interest in blood, in death, and such gruesome subjects." As she told me this the child came into the room with a book in her hand. She had unlocked a bookcase in the waiting room and had abstracted a treatise upon diseases of the skin, profusely illustrated in colour. Here, then, was striking confirmation of the truth of the mother's complaint. Yet I doubt if she had paid much attention to the book or its contents. She had hailed it as an opportunity to disturb her mother and to make a sensation. So with the page well opened she sat down beside her mother waiting the moment when she should discover the dreadful picture. As her mother was busy talking to me she did not for some time notice the criminal and the book had to be pushed forward bit by bit before the expected cry of horror was evoked. The satisfaction of the child was complete and evident.

Of another child it was complained that when he lost his temper he rushed into his mother's room and hurled the crucifix to the ground. I do not for a moment believe that such an act meant more than that he divined that in this way he could make the biggest sensation so far as this particular mother, a woman of strong religious feelings, was concerned. It is instructive to note that in the society of the servants his proceedings were different. He had discovered, I suppose accidentally, in his struggles with his nurse, that a sensation could always be produced if he pulled her petticoats high enough. The screams and the expostulations and laughter of the servants made him feel thoroughly important, and it was this device which he exploited when in their company. His antipathy to religion with them was no longer evident.

It might seem reasonable to conclude that acts of impiety and acts of indelicacy in a boy of 6 years of age implied a highly abnormal state of mind, and were the expression of deep-seated and complex emotions and impulses. I have little doubt of the conclusions to which an analyst of the school of Freud would be irresistibly driven. I believe that in reality they meant no more than that the management of an egotistical child, determined to assert himself, was somewhat at fault.

In the symptom which I have particularly chosen for analysis, that of the common refusal of food, it is easy also to discern the part which this instinct of self-assertion plays.

A little boy was brought to me in a motor car. He was a striking example of this anorexia nervosa. He had not seen the car since a visit paid to his grandfather three weeks before, when at the midday meal his refusal to eat had created consternation. Clearly the recollection of the fray had lived pleasantly in his memory, for when the car came to the door to bring him to me, thinking he was on his way back to his grandfather's, he said at once "Not eat my dinner," a sentence which at the time had no meaning for his parents, but to which my explanation afforded the clue.

To understand the child, one must first understand the parent. The all-powerful influence proceeding from the parent must be utilized to strengthen, not to weaken, the child.

C

DISCUSSION.

Dr. C. McFie Campbell (Boston, U.S.A.) said that Dr. Cameron in his paper had dealt mainly with the physical aspects of the nervous child. It was a fact that children of this type were often to be found to be suffering from bodily disease, or perhaps from constitutional physical defect, and this might play an important part in the development of their nervousness. It was in these cases especially that the psychiatrist required the co-operation of the general physician, to whom he looked for further enlightenment upon this aspect of the problem. The psychiatrist was necessarily more often brought into contact with those children who, being in every way physically fit, exhibited disorders of conduct such as stealing, lying, temper, tantrums, and so on. Dr. Cameron had emphasized that in the development of such peculiarities of conduct the environmental influence, and particularly the attitude of the parents, played an important part. That this was so no one could doubt who has had personal experience of dealing with these cases.

It was important, however, to realize that the child was a complete individual with a mind of its own, and that it had to adjust itself, not only to the external difficulties of parental management and home conditions, but also to the internal difficulties inherent in the development of its own emotional life. It might in some cases be necessary to gain the child's confidence and to discover the internal emotional stresses if treatment was to be successful. With regard to the external situation, if this was to be dealt with adequately it might mean occasionally that the physician had to call upon the parents to reconsider the scale of their own ethical values. He believed that parents, as a rule, were ready to do this if they could be convinced of its importance to the welfare of the child; in fact, this argument might be more cogent than an appeal to the individual whose own welfare only was concerned.

Dr. Helen Boyle (Hove) said that, with regard to the stance of the nervous child, was it due to inherent congenital maldevelopment of the brain, analogous, though different in amount and possibly in quality, to that shown by Dr. Bolton in the brains of mental defectives? Or was it due to some defective development owing to faulty glands (as Sir Frederick Mott believed was the case in dementia praecox)? Or was it the stance of the disheartened child due to psychological causes? Might it be a mixture of one or more of these? It was the typical attitude of the fashionable woman of the post-war period, probably indicating truly the disheartened tired state of the women's minds, and thus being a fashionable presentment of the mood of the moment. Could this have been imitated by the children? In the last 40 children admitted to the Lady Chichester Hospital, Hove (for early nervous and borderland cases), in 20 the stance was bad, in 4 fair, in 16 good. In looking through the notes it struck Dr. Boyle that in those in which the stance was good they were cases who were letting off emotional steam in some way, making some sort of adaptation of life, and not so dominated by fear as the others. One talked almost incessantly, another stole, was cruel, very polite, destructive, and so on. Again, did this stance necessarily indicate more amyotonia than the normal attitude? Surely in both the child tried to get its centre of gravity over its feet. This could be done either as in the normal, by throwing the head up and back, the chest forward, and the abdomen back; or, as in the stance of the nervous child shown by Dr. Cameron, by hanging the head forward, the chest back, and the abdomen forward. Might this not have been started by shyly bending the head to hide the face? It was difficult to throw the chest out and hang the head too. Another point was that this faulty attitude tended to get well in some cases more quickly than would seem likely unless due to psychological causes. The desire, mentioned by Dr. Cameron, for self-assertion or for conquest of its surroundings was in many ways a valuable quality, but might lead to unpleasing results. Dr. Cameron felt that the handling of the child should be done as far as possible by the mother, and that she often needed help. The Parents' National Educational Union would be one way of reaching a certain number of parents.

Dr. W. A. Potts (Birmingham) said that it was necessary to make a thorough physical examination, including an investigation of the endocrine glands, although treatment by endocrine substance was only occasionally effective. Still in some of the cases of pallor, albuminuria, enuresis, and digestive crises small doses of thyroid might act like a charm. Usually the nervous excitable child suggested a hyperthyroid function, but that hyperthyroidism might be a defence reaction, which was a sign of weakness. With tremors, parathyroid might be useful, while for the overgrown pituitary, extract might be necessary, owing to previous overstimulation of that gland. On the psychological side the attitude of the parents to life was as important as their attitude to the child itself. Passionate parents might terrify the child even if their temper was not directed against him. Their lack of control was a bad example, and example rather than precept was the most important factor for psychological adjustment. So also the drinking parent scared the child and set him an example of not facing the problems of life. Bad adjustment between husband and wife produced tension in the child, and confirmed his impression that adult life was simply not worth living, so that he remained a "Mary Rose" or a "Peter Pan." In treatment hygiene came first. Fresh air was the best nerve tonic. Too many clothes were debilitating and demoralizing. Frequent feeding upset the digestion, and also had a bad psychological effect. The child must not be unnecessarily interfered with, but left to play naturally and to work out his own salvation. His life must be simple and hardy, not sensational. He must be trained to go into the dark without fear, though anything frightening must not be forced. For this there should not be a night-light, but a little light kindled in his mind. To diminish morbid fear and for many other reasons every child must receive simple teaching in religion and the origin of life from his mother. Teaching in both must be of the simplest kind, as his questions showed he was fit to receive it. If he was not taught that there was an almighty beneficent Power which would help him, the imagination every child had would fill the darkness with bogies and powers of evil. So also, if not taught in the right way at the right time about the origin of life, a bad companion might suddenly flood his mind with false teaching, terrifying in itself and possibly leading to bad habits. The possibility of such habits as cause or effect of nervousness must not be overlooked.

Dr. H. Crichton Miller (London) said that Dr. Cameron had given a very vivid picture of the nervous child. On the physical side they all recognized, no doubt, the identity of a type that was only too familiar to them all. He regretted that Dr. Cameron did not venture on some theory of etiology, however speculative. For his own part, Dr. Crichton Miller wished that so careful an observer as Dr. Cameron would undertake a series of tests in children of this group to demonstrate the normality or otherwise of their calcium metabolism. He suspected that they inclined to look too exclusively to skeletal maldevelopment for evidence of faulty calcium metabolism. The nervous child, as described by Dr. Cameron, might conceivably owe to this cause not only its amyotonia, but also other features of the syndrome. Were that to be substantiated recent observations, if confirmed, might lead them a step further on to a possible failure of parathyroid function as the essential etiological factor.

The nervous child, as Dr. Cameron described him, and as they accepted him, was by no means the only type to be found in the much wider class that the Americans described as the "problem child." Dr. Cameron had very rightly chosen the greatest factor in emotional maldevelopment—faults of parental control—to discuss alongside the wide, if vague, group of physical maldevelopments that made the nervous child. Let them by all means establish correlations between the physical and emotional wheresoever they could. Nevertheless, they must not mislead themselves. Failures of adjustment, functional neuroses, and defects of conduct could and did show themselves with notable frequency among children who did not conform in the least to Dr. Cameron's description of the nervous or amyotonic child. The "maternal traction"—as Dr. Cameron aptly called it—was often exercised so powerfully as to ensure failure of emotional development in children who were physically robust and in no way predisposed on the somatic side to failure on the psychological side.

It all came to be a question of the balance of opposing forces—the forces that made for growth and progression, and those that made for stagnation or regression. Among the forces that made for progress they had the inherent tendency of any growing thing to realize its destiny, to fulfil its function, and to attain to maturity; they had also all those emotional forces of the environment which lured the child on to growth, and which might be roughly classed under the heading of progressive idealism. On the side of progression also was the stimulus of social opinion, especially that of other children. On the other side they had the counteracting forces that made for regression—all those failures of vitality which neutralized the biological urge of growth, the menace of maturity, and the too alluring call of the cradle, or, as Dr. Cameron would say, the irresistible "maternal traction." There were some nervous children who, in spite of an excellent environment, failed to develop because, being of the amyotonic type, they never had sufficient vitality to achieve; their biological urge was a negative quantity, and the line of least resistance was their constant choice. They had to bring up their children in such a way that they should not feel that adult solicitude was to be secured by infantile helplessness, nor yet by exhibitionism and delinquency. Dr. Crichton Miller differed from Dr. Cameron when he said that "all the interest and remark are to be aroused by success." The really curative atmosphere was that in which normality was taken for granted; and the reaction of the adult to abnormality should always be to withdraw the limelight.

There was no symptom with more interesting psychological ramifications than that of enuresis nocturna. It was a condition in which archaic traditionalism still seemed to dominate their therapy. The unfortunate victims of belladonna poisoning, bougie treatment, and electro-therapeutics, were always the most difficult to cure—and little wonder. It was probable that the physical basis of this condition was thyro-pituitary deficiency. Be that as it might, the fact remained that no condition was more associated with suggestive factors. Most of the patients auto-suggested themselves into a chronic state of fear and shame, while the adult forces of hetero-suggestion were exemplified by the waterproof sheets, the 10 p.m. waking, and even the nightly prayer for deliverance! They must remember also that the symptom of nocturnal enuresis was the most complete symbol of infantility; it therefore served as the best defence against the dreaded implications of growth. He remembered a boy of 10½ who had been a life-long victim of this failing. He was an only child, and his mother was a widow. It was pointed out that his condition was becoming serious, because the child could not go to a boarding school till he had overcome it. It did not require a very elaborate investigation to reveal the fact that the symptom was serving as a defence against separation—not only for the sufferer, but for the mother. In point of fact, they both preferred this disability to the pain of separation, which was becoming imminent. They must also remember that to certain children this symptom gratified a feeling of importance, and a thirst for power, in that it was very obvious how much disturbance and trouble was caused. Then there were cases in which children had been told that unless they overcame their failing by a stronger effort of will they would find themselves ostracized from society and pariahs in the world. An instance of this was a boy aged 11 who was brought to Dr. Miller with a long list of misdemeanours, including meaningless thefts and unnecessary lies. He was as healthy as one could wish. All his life he had been a victim of nocturnal enuresis. His mother described one of his most incomprehensible delinquencies, which consisted in travelling from school to a station beyond his home, and then evading the ticket collector, and walking back. The fact was that the child was suffering from a profound sense of adult injustice. He believed that his enuresis was beyond control, and that therefore the threatened penalties of society were undeserved. The revenge motive stimulated him to "get his own back" from society by any means at his command.

even though they involved considerable trouble to himself. Dr. Crichton Miller mentioned three different aspects of one problem of the nervous child in order to show how varied might be the underlying causes at work, and therefore how useless it was to expect results from routine treatment.

Sir ROBERT ARMSTRONG-JONES (London) was of opinion that the nervous child was a genus with several species, and this accounted for the varying physical symptoms presented—for instance, a limpness and consequent posture with amyotonia in some, whilst there was a definite tendency of katatonia and flexibilitas cerea in others. At any rate there was no doubt that these symptoms were the precursors to a later mental collapse unless taken definitely in hand and treated, and the indications for treatment must be based upon the "tripartite" aspect of man—namely, the bodily, mental, and spiritual or ethical. It was possible to cultivate the bodily only or mainly, and so obtain a physical Hercules but a mentally undeveloped person. It was possible to cultivate the mental and overlook the spiritual, so that one could see the moral monster. The aim of treatment must be based upon the three aspects. First, in regard to the bodily side, there must be adequate sleep. Rest was essential for these restless, unbalanced, easily fatigued, and excitable children. They should be in bed by 8 o'clock, and from 12 to 15 years of age must have twelve hours' sleep, and if not sleep they were resting whilst in bed on their back. These children were almost invariably light sleepers, and often experienced dreams and sudden starts or "screams." The room should be a quiet one and darkened. No lessons should be indulged in for an hour before bed. The primitive instincts were obvious in many of these nervous children. There was a fear of the dark, and the mother had an unusual power over the child towards dusk or the falling of darkness, and could do much to relieve and reassure the child and soothe its fears or correct its conduct. This was a very impressionable hour in child as well as in animal life, and rest and restoration could be greatly aided by a warm immersion bath before bedtime. As was well known, the skin was developed from the same parent embryonic layer as the brain, and every part of the skin was represented in the brain, so that light massage might greatly assist rest and sleep. The clothing must be light, and the clothing should be suspended from the shoulders and not the waist, the shoes should be comfortable, and no garters worn. All wet clothes should be changed at once. The food of the nervous child was important. Fruit was essential, and the juice of an orange was most restorative. The food should be at correctly regular intervals. The nervous system must be sustained at regular intervals, and there should be adequate fat and sugar; these could be well supplied in home-made toffee at meal times. The utmost attention should be given to the regularity of all the functions, and syrup of figs or fluid magnesia were good friends. Exercise should not be indulged in so as to produce fatigue. The hands should be encouraged by some mutual interest. The eye and hand went together as much as did hearing and speech. The hand was the companion to the eye. One of the chief senses connected with education was the muscular sense, and the muscular element of thought had hitherto been very inadequately worked out. The first development of attention was in muscular movements, and attention was the basis of the will, which must be strengthened in the nervous child. In a baby and in early life there was constant movement, and nothing was so characteristic of early infant life as its general undifferentiated muscular movements. As healthy growth proceeded some peculiar association of pleasure or pain was associated with some movement, and the mind was arrested, as it were, and a special impression was made on consciousness. This detention of the mind was the earliest growth of the will, for it tended to keep off or to inhibit some movements which were useless and random, and to fix the attention upon those that were useful; the recollection of this utility could be revived, so that purposeful movements occurred, and a deliberate adaptation and a desire resulted. The first act of will was attention, and when the attention of the child could be fixed it was the first stage in successful education and treatment. The attention was no special faculty and it was no separate activity; it was a detention of the mind and a concentrated activity of the conscious stream. There was a maxim in the proper upbringing of children: "Don't say 'don't.'" The iteration of "don't" was to suggest the opposite. The will to do came before the will not to do. They should not coerce the nervous child, but express disapproval by reasoning to it, use patience, and show an example, which was the best appeal. Contrariness was the most marked symptom of the spoilt child, and was often an indication of fatigue in the nervous child. If he was troublesome, let him see where his naughtiness and contrariness led to. If he was late for breakfast let him be left. If he refused food, send it away. If he refused to dress let him stay in bed. He believed the nervous child was very quick at self-discrimination and self-analysis, and he soon learned the value and results of retributive justive. Good and unperturbable temper was necessary in dealing with the nervous child, who was quick to realize approbation. The child learned that he could obey and disobey, and his imitative tendency would help him to remember a good example as a suggestion. Lastly, he believed strongly in encouraging a child to do the "right," to learn there was a right and a wrong, to show him he had the choice, and that a responsibility lay upon him to do the right. The feeling that there was someone very great and very mighty on whom he could lean as on his parents was a great factor in children's minds, and that this great Person was pleased with right conduct and grieved at the opposite appealed as a most powerful incentive and motive to right conduct. He believed there was in human beings a moral sense just as effective and powerful as the sense of sight or the sense of hearing. The four periods of life were a maxim: (*a*) the period of infant life, during which the senses were providing information and links of association, but which was mainly a period of reflex actions; (*b*) the perceptive period of discrimination and differentiation; (*c*) the period of intellectual growth, in which the attention, imagination, and memory were cultivated; and (*d*) the period of reflection, when unselfishness appeared and the growth of the will was perfected through self-control and reason—a period when the social spirit and the regard for others was being fully developed and perfected, and treatment must be based upon a recognition of these.

Dr. R. G. GORDON (Bath) said that the individual characteristics of the child were important from the psychological point of view. It might be interesting to consider the predisposition of nervous children, and for purposes of discussion McDougall's treatment of this was useful, though his claim for elemental characteristics of his instinctive reactions could not be substantiated. He described certain instinctive dispositions, such as pugnacity, fear, curiosity, sex, and so on, which were built up and integrated together to form the personality and character in the normal individual; these instinctive dispositions varied in their relative proportions, but only within certain limits. In the nervous child these dispositions were out of proportion and lacked proper integration. McDougall had shown how several of these might be combined to form compound emotions and sentiments, but did not sufficiently recognize the new and unique quality which emerged. When mercury and chlorine combined under certain conditions a new entity—calomel—emerged, but under other conditions a different entity—corrosive sublimate—emerged. In the nervous child it was often found that instinctive dispositions combined and emerged as some characteristic of behaviour different from the normal. Failure of general integration was another important factor in the make-up of the nervous child. The question to be answered was why these failures took place. From the neurological standpoint they must look to some failure in cortical function, for it had long been recognized in the motor and sensory realms that the cortex was essential for the integration and control of lower functions. More lately Bianchi had shown that the frontal lobes had to do with the integration and control of emotional dispositions. In the case of the nervous child there might,

then, be something wrong with the frontal lobes. That there was nothing gross was obvious, because many of these children grew out of their troubles. It must be recognized that the adjustment at the level of the frontal lobes was very delicate, and almost anything might upset this. Cases might be quoted where this dysfunction of the frontal lobes was apparently induced by malnutrition and lack of vitamins, endocrine imbalance, infections (especially syphilis and encephalitis lethargica), and the influence of the environment. This last factor was by far the most important, and no treatment could be of any use unless the environment was considered. In treating a nervous child they must consider his make-up, and to do this they must use some analysis, but the elaborate technique of psycho-analysis had no place, for the child was quite incapable of grasping what the analyst was at.

Dr. C. F. Harford (London) said that Dr. Cameron had sketched the posture of the nervous child, and had shown that the crooked back was closely related to a warped mentality. He regarded courage, promptitude, and presence of mind as distinguishing features of the well trained recruit with his erect and alert bearing, a striking contrast to the timid child whose characteristics they were called upon to study. Dr. Harford proposed to advance another proposition, which was that the crooked eye was another mark of an unstable mentality. To illustrate his meaning he had selected a series of cases taken from one morning's experience during the present month in his consulting room in a provincial town which he visited once a week. In the ordinary course of his ophthalmic practice he was seeing cases referred to him by the school medical officer, when there walked in a mother with three children —a girl aged 13 and two boys aged 8 and 5—both of these latter having pronounced left internal strabismus. As it turned out, the girl also had left internal strabismus, which was not constant. The boys were instances of the two types of children already described to them, which, following Dr. Crichton Miller, Dr. Harford referred to as the suggestible and the rebel. The elder boy was essentially the rebel, always in trouble but absolutely unmoved by punishment, though caning seemed to be his almost daily portion. He had the dare-devil spirit, climbing into almost inaccessible places, running to horses' heads, and so forth. He was described as very nervous, and this was evident when Dr. Harford had to put some ointment into his eyes, a process which he resisted, although his brother and sister had been most amenable to treatment. The younger boy was the suggestible one, imitative to an extreme degree, so much that he had tried to cut off his hair in order to be like a master who was bald. He was, however, said to be obedient and helpful at home. The girl was fond of domestic pursuits—knitting, cooking, etc. Both boys were left-handed, particularly the elder. These children were members of a family of nine. The eldest brother, aged 22, in the Royal Marines, squinted as a child and was backward in speaking and was also left-handed, but he had grown out of all these habits. The mother squinted as a child, but otherwise there was nothing calling for comment upon her side of the family. The paternal family history was all-important. The paternal grandfather, who was deaf, was a most eccentric man. He married late in life, and lived to over 90 years of age. He had three daughters and two sons, but he would not support wife or family, the burden of which fell on his wife. The two sons were twins, one of them being the father of the family under review. He was the weaker twin, but he outlived his brother, who died at the age of 2. One of his sisters was left-handed, and another was so backward in talking that she did not speak until she was 6 years old. This family illustrated the point to which attention had been particularly drawn by Mr. Inman of Portsmouth,[1 2] as to the connexion of squint with left-handedness and stammering, with which they might link up all kinds of speech defect. On the same morning Dr. Harford saw a girl, aged 7, with right internal strabismus but without any significant family history. This child was in difficulties at school, for while she was brilliant in some subjects she was backward in others. She was a very lively child, excitable and emotional, and very fond of minding babies. He suggested that in her case, as in that of the girl already mentioned, the maternal instinct was developing, and that the ordinary school routine conflicted with their special tastes and gifts. The next case was a girl who had a squinting brother. He should have come to see Dr. Harford, but he suffered from diarrhoea whenever excited and had been upset by the bad thunderstorm. This boy was described by his mother as an imp, recklessly climbing trees, but, on the other hand, one who cried too easily. These were cases which could be multiplied almost ad definitely, especially by Inman, and Dr. Harford was absolutely convinced that the incidence of squint might be regarded as one of the valuable clues to deeper emotional disturbances in which parental complexes, particularly on the father's side, might be looked for. One other reminiscence from the same consulting room might be quoted of two boys, both squinters, whom he saw on the same morning, some weeks previously. One was a veritable acrobat, the other a boy of an irritable disposition who, like his father, had no idea of patience, especially if it meant waiting for a meal. Clearly there was some family jar in this case.

These notes may be taken as a fair sample of the evidence which had been obtained in cases of squint during the past eighteen months in which Dr. Harford had sought to follow out the line of investigation suggested by Inman. His observations had been made in the ophthalmic out-patient department of a large general hospital, at a school clinic in the East End of London, as well as in school work outside London and in private practice. In each case the results had confirmed Inman's view. His object in putting forward this evidence in the present discussion was not so much to speculate as to the origin of squint as to suggest that its occurrence might form a valuable aid in the recognition of emotional conflicts which might influence profoundly the child's future. He had in three previous papers[3 4 5] considered at some length the relation of ophthalmology to psychology and psychopathology, and expressed the view that when this connexion was more generally recognized a new field for research would open up which might be of great benefit in the recognition and treatment of those elusive disorders which they were investigating at that meeting. In the case of squint, mainly owing to Inman's work, they could link together the ocular defect and the psychological syndrome which accompanied it. He did not dispute the importance of errors of refraction and the necessity of correcting them where they existed, but they had to think of the child in general, and not only of the troublesome defect which was but one item in the case. In the opening paper three elements in the behaviour of children were singled out for special notice. These were: (1) the child's proneness to the influence of suggestion; (2) his desire to oppose; and (3) his instinct to assert himself, to attract to himself, and to make himself the centre of the picture. Each of these elements might be found in the history of squinting children, combined with some parental difficulty. If one endeavoured to select one factor which was common to all these cases it was fear, and when they spoke of the nervous child they usually meant the frightened child. Thus, if they passed to the question of treatment, since they were dealing with a psychological condition they must deal with it by some method of psychotherapy. As he stated last year in this same Section,[6] he was of opinion that some measure of analysis and of suggestion was common to all systems of psychotherapy, and that the final result of successful treatment was auto-suggestion. He believed that a carefully devised system of collective teaching in auto-suggestion, in which the parent was also included, offered the best prospect of dealing with the shy, reserved, irritable, or distinctly frightened child, and he hoped that all who were interested in the subject might be able to co-operate in some way in securing the best results. Dr. Cameron had alluded to the fact that the subject was one which claimed the attention of parents and teachers as well as the medical profession. The risk was that the two former classes should

outstrip them in their knowledge of psychology. For the sake of the children it was of the utmost importance that the psychological issue should be kept in a prominent position in their discussion. At Glasgow last year he suggested at a meeting of that Section that the General Medical Council should be asked to include the teaching of psychology and psychopathology in the medical curriculum, and the President of the Section, Professor Robertson, put forward a resolution on these lines which was unanimously adopted by the Section.

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Dr. WILKINS pointed out that in the year 1926 additional school accommodation would have to be provided owing to the crop of armistice babies. Surely it would be advisable in every town of 30,000 people to provide an open-air day school. Nervous children improved immensely in such schools and did not cost the ratepayers an additional penny, as bandstands, parks, sheds, verandahs, etc., could easily be used. It would therefore be quite possible to do something for the nervous children of the poorer classes in our day and generation.

Dr. L. A. PARRY (Brighton) thought that single children were much more often of the nervous type than children of big families. No people ought to marry if they intended to have only one child, for this only child never had a fair chance. He also suggested that children of Jewish families were very frequently of the nervous type. The difficulties of treatment were great, for in the large majority of cases the parent was so largely responsible for the condition of the child, and while it remained in the same surroundings the chance of cure was minimized. One thing in treatment was at all costs to be avoided, and that was psycho-analysis. He agreed with Dr. Potts that some form of simple religious instruction was very important in every child's life, but was very doubtful whether instruction in "the origin of life" was either wise or necessary, especially in very young children.

The Rev. Dr. BHABHA (London) asked Dr. PARRY as to the class of Jewish children he had referred to as being "nervous," because in his work at a large East End charity clinic in London about 80 per cent. of the patients were of the Hebrew race. From his experience he had not noticed any pronounced evidence of the "nervous child" among them, while he had come across many cases of the Gentile children who could easily be classed as "nervous," and he thought that this was entirely due to the alcoholic habits of the Gentile parent.

Dr. PETER MACDONALD (York) said that it was with extreme diffidence that he ventured to take part in this discussion, and his sole excuse was the connexion made by Dr. Cameron, in his opening address, between postural defects and the other defects of the "nervous child," and between postural defects and other defects in the adult. He was going to put unorthodox views before the Section and, in particular, was going to take the unorthodox step of recommending to the Section the study of the work of a man who was not a medical man; and he did this solely with the hope that he might interest sufficiently some members of the Section, who were far more competent to have an opinion than he, to induce them to investigate his work. His name was F. Matthias Alexander, and Dr. Macdonald knew of his work through one of his books, *Man's Supreme Inheritance*, through another, *Constructive Conscious Control of the Individual*, which was at present in the press, and through his personal services to Dr. Macdonald himself and others; and he regarded his work as epoch making. As relating to the subject of this discussion, Dr. Macdonald had learnt from him or, rather, through him, three things: (1) That man did not now know the erect posture, and possibly he had never learnt to acquire it consciously; (2) what the co-ordinated use of the muscular mechanism was, to secure the posture best for the moment; (3) and this was the important thing—he had learnt how to acquire knowledge of the co-ordinated use of such mechanism. As to (1), members of the Section would readily convince themselves if they would note, in observing their friends, that few of them who had reached the age of 50 had an abdominal girth which was less than their chest measurement, and that in those of their friends who were older they might observe a curvature of the top of the spine with the head carried downwards and forwards, which was usually considered to be the effect of old age. In all seriousness he asked the Section to consider if this might not be, not the effect of old age, but the cause of it. He said nothing about (2) at the moment, except that he denied point blank that the drill-sergeant's chest, which Dr. Cameron seemed to approve of, was a sound posture; and, indeed, in his out-patient department he took every opportunity, when the old soldier appeared, of pointing out his rigid protruding chest to his house-surgeon as the "characteristic military deformity." As to (3), it was an impossible task in a few minutes to do more than indicate Mr. Alexander's methods. Put shortly, however, by manipulation with his own hands he placed his pupil or parts of his pupil—his neck and chest, for example—in the posture he wanted him to learn; he painstakingly taught his pupil to allow him to do this passively; the pupil thus acquired a sense impression of the posture he wanted him to acquire; by repetition the pupil was enabled to register that impression and, once registered, he was able to reproduce it for himself. The reason for this method was that man learned a new thing only from experience, or, to speak paradoxically, he could not teach anyone anything except that which fundamentally he knew. Mr. Alexander's thesis was that man's control of his musculature, thinking processes, life functions generally, so far as they were subject to volition, was ordinarily an instinctive one; that instinct was a sound guide only in a stable or slowly changing environment, that in the rapidly changing environment of our developing civilization it broke down, and that for instinctive must be substituted conscious control. The effect of his training on health and disease was astounding, though he in no way professed to treat disease at all; he professed solely to be a trainer. Flat-foot became a trifling disability which simply disappeared. Asthma became ameliorated or removed; stammering was overcome; and Dr. Macdonald had seen a "nervous child," with much of the postural deformity Dr. Cameron had so ably shown in his slides, become a relatively supple, normal child.

SECTION OF OBSTETRICS AND GYNAECOLOGY.

VICTOR BONNEY, M.S., M.D., F.R.C.S., President.

THE RELATION OF SYPHILIS TO OBSTETRICS.

BY

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IN a brief paper on the relation of syphilis to obstetrics there will be no need to deal with the very controversial and theoretical side of the manner of infection. These remarks, which lay no claim to any original work, serve merely to emphasize the importance of rather going out of one's way to look for ante-natal syphilis, to urge thorough and efficient treatment of the condition when found or suspected, and to draw attention to the extremely good results accruing from such treatment.

By way of introduction a series of the generally accepted figures of the relation of syphilis to marriage may be of interest.

27,000 deaths occur annually in England and Wales ante-natally and in the first week after birth (Amand Routh).

10 per cent. of all marriages involve a syphilitic individual.

75 per cent. of all offspring in a syphilitic family are infected (Jeans[31]), and 30 per cent. of pregnancies in such families end in death of the foetus at or before term.

40 per cent. of dead-born premature infants are killed by syphilis.

25 per cent. of all foetal deaths are caused by syphilis.

16 per cent. of stillbirths are directly due to syphilis (Eardley Holland).

Of syphilitic infants born alive 78 per cent. die in the first year, and of the remaining 22 per cent. many die in early childhood.

From Earle Moore's investigation of 200 cases,[6] of whom 178 had a positive Wassermann reaction and were pregnant, and 22 were non-pregnant mothers with syphilitic children, it was found that 22 per cent. had outspoken lesions of syphilis; in 72 per cent. syphilis was proved or strongly suspected by the history, physical examination, response to treatment, or subsequent course; in 21 per cent. all evidences of syphilis except a positive Wassermann reaction were lacking. Of the pregnancies in these cases, 41 per cent. proceeded to miscarriages or stillbirths and 20 per cent. gave living syphilitic children—that is, 61 per cent. produced syphilitic foetuses or children.

Modes of Infection of Mother and Child.

The more usual modes of infection may be classified as follows:

A. *Pre-natal* infection of mother or child. (1) The mother is syphilitic before becoming pregnant. (2) The mother is impregnated and infected at the same time, directly by the father. (3) At the time of impregnation the ovum only is infected, the mother either escaping or later acquiring the disease. (4) The mother being pregnant becomes infected.

B. *Intra-natal* infection of the child. A healthy child may be infected through a syphilitic genital canal.

C. *Post-natal* infection of the child—as by breast-feeding in a case where the mother was infected after the seventh month of pregnancy.

Relation of Syphilis to Ante-natal Supervision.

Most of the cases fall into one or other of the following groups:

A. *Manifested Disease.*—(1) In the mother, most commonly in the first or second stage. (2) In the foetus, according to Eardley Holland's investigation, from which he has classified them according as they show (*a*) signs of florid syphilis, (*b*) those with secondary attributes, (*c*) those with probable disease, (*d*) those with latent syphilis, in the group with "cause of death unknown."

In connexion with these cases Holland classed the evidence as primary, when the spirochaetes were found, and secondary in the following: (*a*) the maternal Wassermann reaction positive in 95 per cent.; (*b*) signs of syphilitic osteochondritis in 97 per cent.; (*c*) associated enlargement of the liver and spleen, of themselves of no value; (*d*) increased weight of the placenta; (*e*) typical histological changes in the placenta in 90 per cent.; (*f*) unequivocal syphilis in the mother; (*g*) birth of former known syphilitic foetuses.

B. *Latent syphilis*, from laboratory evidence of the Wassermann or Sigma reaction; and from examination of stillbirths, abortions, and placentae, or from probability according to the mother's previous history, with evidence of the father also or from previous children.

In connexion with latent syphilis it should be remembered that a history of primary or secondary disease is difficult and rarely possible; its absence is of no value. The obstetrical history is not reliable in any case, but all histories of abortion, stillbirth, neo-natal death, and later death should be gone into carefully to eliminate other causes. In the Wassermann reaction a positive one in any degree—that is, a 2, 3, or 4 *plus* reaction with an alcoholic antigen—demands antisyphilitic treatment, remembering that probably 1 in 100 normal people give a *plus* result, so that in unsuspicious cases a positive Wassermann reaction should be verified by a Sigma or a luetin test; in suspicious cases the Wassermann reaction of the father or of previous children should be taken, if reasonable evidence cannot be found to account for abortion, stillbirth, neo-natal, or later death, even if the blood test is negative, when a provocative Wassermann test and treatment should be instituted.

The examination of abortions is most disappointing, the spirochaete being rarely found even if the woman has had stillbirths crowded with them before.

In the examination of stillbirths Holland considers, in the absence of the spirochaete, when the maternal Wassermann test is positive, if the case falls into one of the four groups, syphilis should be diagnosed; (*a*) with chondro-epiphysitis and typical placental changes; (*b*) chondro-epiphysitis with typical placental changes and enlarged spleen; (*c*) chondro-epiphysitis and enlarged spleen; (*d*) typical placental changes and enlarged spleen.

Prognosis as Regards Modification of the Disease and Effect on Foetus and Foetal Appendages.

A. *The Time during Pregnancy at which Infection Takes Place.*—Fournier's figures are as follows:

	Foetal mortality. Per cent.	Morbidity. Per cent.
Pregnancy before infection ...	65	70
Conception with infection ...	75	90
Infection after conception ...	39	72

McDonagh thinks that if the disease is contracted before the end of the fifth month the child is bound to be infected; if at the fifth and sixth, half die, half do not; if at the seventh the child escapes, from which he makes the important conclusion that if the mother gets infected after the seventh month the baby must not be breast-fed to avoid the acquiring of the disease. It is generally agreed that the earlier in pregnancy the mother is infected the more likely is the pregnancy to come to an abrupt end.

B. *The Source of Infection.*—Fournier's figures are as follows:

	Foetal mortality. Per cent.	Morbidity. Per cent.
Father alone	28	37
Mother alone	60	80
Both as source	68	92

C. *The Age of the Disease in the Transmitter.*—During the first year gives the worst prognosis; then during the next three years. Of a series of 90 women pregnant during the first year of the disease only two gave birth to living children.

D. *Parity.*—Multiparae show signs of greater resistance, and of attenuation of the virus, which may be due to their containing more natural protective substances with each succeeding pregnancy.

E. *The treatment*—as regards (1) its time of commencement; (2) the nature and thoroughness of it; (3) the patient's general condition—as, for example, the state of the kidneys. Boas[32] in a series of 483 children born to syphilitic mothers, finds the treatment of the mother influenced the children as follows:

	No. of Children.	Syphilitic.	Non-syphilitic.
Untreated	158	157	1
Mercury before pregnancy	87	78	9
Salvarsan before pregnancy ...	15	12	3
Mercury during pregnancy	111	80	31
Salvarsan before, mercury during, pregnancy	26	7	19
Salvarsan before and during pregnancy	7	1	6

Findlay[24] in 15 pregnant syphilitics with treatment established early, obtained 14 living children; the fifteenth child died during a difficult labour; further, no signs of disease were found in the children up to 7 years of age, and the Wassermann reaction was negative in all but one, which became weakly positive at seven years. Galliot, in 144 cases treated with salvarsan during pregnancy, obtained only 11 non-living children, or 8 per cent. Adams[3 33] since 1917 had 136 cases with 4 deaths of children (at 3, 14, 36, 60 days) and 8 stillbirths, the last 108 cases with 1 death at the sixtieth day and 3 stillbirths, of these 2 occurring in cases that had had no treatment, and only came in just before labour.

Effect of Pregnancy on Syphilis.

A. *Alteration in the Wassermann Reaction.*—Whitridge Williams considers this test unreliable, as it may change in either direction during pregnancy spontaneously, or from day to day; and also because of the occasional occurrence of a falsely positive during pregnancy followed by a negative after labour, which may be a provocative reaction: falls suggesting this may be due to an excess of unbalanced lipoid in the blood. The technique of the Wassermann test must be carefully studied, as results vary from different clinics; and again, for example, the ice-box method may be positive when the water bath is negative.

B. *Protection from Manifestations.*—This may extend over a long period, and even with quite inefficient treatment several patients are clinically and serologically well.

C. *Disturbance in Time Relations of the Three Stages.*—Chancres and secondaries coexisted in a series of 9 to 32 cases. Sometimes the secondary stage may be delayed ten months. The interval between first and third stages may be much shortened.

D. *Alteration from a Typical Response to Infection.*—There may be suppression of all early lesions, especially when there is simultaneous impregnation and infection; or the lesions may take a milder form. Sometimes when conception occurs with infection, or during the florid stage, the disease may take a graver form; the chancre may be larger, hypertrophied, more moist, with a tendency to ulceration, and to become phagedaenic, and may last longer, up to three months. In a series of 11 cases of chancre, one lasted one month, and the average was two and three-quarter months. The secondary manifestations may come sooner, be more marked owing to the local succulence, the exanthem widespread, papules larger, pustules common, more tumefaction of glands, with more tendency to suppuration. Of these florid cases Fournier says that eroded papules are numerous on the vulva, they develop in a singular exuberance, take on quickly a granulating appearance, hypertrophy, and often constitute veritable tumours, which invade and entirely deform the entire vulva. Further, they are always more rebellious to treatment, being reabsorbed slowly and with difficulty. The ulcerating syphilides are very frequent in pregnant women, are livid, purple, and excavated, which condition is increased by the general tumidity of the parts. They persist longer and have a tendency to become phagedaenic; the anaemia is more profound, the fever more common and higher; neuralgias occurring soon after marriage may draw attention to the condition. Tertiary syphilis is less affected by the advent of pregnancy, though the latter may sometimes awake the disease which was thought to be cured. Most who get impregnated and infected at the same time are singularly free from remote grave manifestations. The resistance of the individual is considerably lessened if there is any systemic weakness, especially tuberculosis, or disease of the circulatory, kidney, and endocrine systems.

E. *Production of a Symptomatic Neuro-syphilis.*—In a large series of 5,400 syphilitics (54 per cent. men and 46 per cent. women)[8 20] latent disease was found to be twice as frequent in the latter, and 42 per cent. of these were pregnant. Junius considers 50 per cent. of paretic women to be sterile. Contrary to that which happens in men, a mild early syphilis does not lead to a neuro-syphilis in women. Half the women showing clinical neuro-syphilis have not been pregnant since infection. Multiparae are less liable to asymptomatic neuro-syphilis than primigravidae. Pregnancy probably accounts for the freedom of women from neuro-syphilis. The cerebro-spinal fluid is abnormal twice as often in the sterile as in those with one or more pregnancies, in cases of late disease—that is, longer than one year. The following figures show the ratio :

	Men.	Women.
Cerebro-spinal syphilis	2.5	1
Tabes	6.3	1
General paralysis	4.2	1
Meningitic neuro-syphilis ...	2.2	1
Vascular neuro-syphilis	4.7	1

Sir Frederick Mott's figures[9] show a remarkable difference in the birth rate of male and female tabetics and tabo-paralytics—a series of 24 such women having had only three living children, and of 54 such men 151 living children, and both the same number of miscarriages and children born dead—namely, 51.

Effect of Syphilis on Pregnancy.

The patient herself often suffers more, the ordinary subjective discomforts of pregnancy being aggravated—as headaches, neuralgias, insomnia, all of which are improved by anti-syphilitic treatment. If a woman who has syphilis becomes pregnant the following events may happen :

1. The foetus may die, giving an early abortion. Ruge considers that of repeated abortions 83 per cent. are due to syphilis.

2. More often a late abortion, at the fifth to the seventh month, or an early premature labour, at the seventh to eighth month.

3. The foetus may die, and be expelled prematurely, with either positive or negative signs of syphilis in the foetus and placenta.

4. The child may be born at term healthy and may continue free from disease.

5. The child, born at term apparently healthy, may develop signs of disease six to eight weeks later.

6. The child at birth may show neo-natal syphilis—for example, pemphigus, mucous tubercles round the anus, etc.

7. The child born at term may show no distinctive symptoms, but soon appear haemorrhages, jaundice, extreme debility, changes in skin, intestines, and viscera.

8. The child may exhibit congenital manifestations, microcephaly and hydrocephaly, delayed development of teeth, spina bifida.

9. There is also syphilis hereditaria tarda, evidenced by intersitial keratitis, deafness, bone, skin, and visceral lesions; or the children are stunted, with Hutchinsonian teeth, saddle-shaped noses, and linear scarring round the mouth; or infantilism, or subsequently developing general paralysis, tabo-paralysis, primary optic atrophy, and epilepsy.

Effect of Syphilis on the Labour.

Many cases are normal. Others have malpresentations owing to the prematurity or to the maceration of the foetus. At times there is primary uterine inertia with weak contractions. A "wooden" cervix may be present, which may feel as hard as a ring pessary, so that incisions may be needed to deal with the oedema and induration, as the membranes at times rupture early in such cases, for often chancres and secondary ulceration cause much induration. Instruments may be needed owing to maternal exhaustion and foetal asphyxia. There may be outlet troubles, with tertiary swellings and ulceration, being either rigid or tearing like wet blotting paper; these cases being useless to suture, but healing best by granulation, with anti-syphilitic treatment. There is often less tendency to post-partum haemorrhage, for if the foetus is dead there is generally thrombosis of the placental site. Rarer events have been recorded, such as rupture of the rectum above a stricture, rupture of the heart with a sudden rise of blood pressure, aneurysm of the uterine artery with rupture, spontaneous rupture of the uterus, and some cases of premature separation of the placenta.

Effect of Syphilis on the Puerperium.

There is no particular increase of mortality or morbidity, except with maceration of the foetus and premature rupture of the membranes. Subinvolution is much controlled by anti-syphilitic treatment. Some figures on the incidence of pyrexia may be added :

	Normal. Per cent.	Syphilitics. Per cent.
Pyrexia in labour	2.7	2.2
Pyrexia in puerperium... ...	20.0	19.0

Experimental Evidence.

Brown and Pearce[11] on the relation of pregnant and lactating women to inoculation with *Treponema pallidum*, from experiments on intradermal genital inoculation of pregnant rabbits, decided that the effects when inoculation coincided with conception are very different during pregnancy and well on in lactation. Normal female rabbits react by prompt development of characteristic primary lesions and lymphadenitis, but of 8 pregnant rabbits so inoculated only 4 showed any clinical signs, 3 very slight and transient with no lymphadenitis, only one that gave rise to lesions at all comparable to the normal being inoculated at the middle of pregnancy, followed by a long latent period of fifty-four days, compared with the normal of ten.

On the pre-natal transmission of syphilis,[12] in all probability an intimate relationship exists between the involvement of the testicle and transmission of the disease to wife and progeny, for animal experiments show that the testicles of apes are found to be infective even when inoculation with spleen and bone marrow failed; that testicular inoculation in rabbits with *Treponema pallidum* produces a high percentage of positive results, whereas with intravenous inoculation into the cornea in the same animals the percentage is considerably less; that intravenous inoculation in rabbits failed often to produce lesions other than those of scrotum and testicle; and that the bone marrow and testicle have been seen to show the treponema before the chancre.

Various hypotheses have been suggested to explain the protection of pregnant women from syphilis. Generally during pregnancy women are more resistant to chronic infections; but in no other disease than syphilis does this protection extend over a number of years, so that the factor of pregnancy supplies some substance which is often able to suppress the manifestations of the disease even when inoculation occurs by the usual route. It seems that greater protection is afforded against protozoa than against bacteria, and against human cells than against protozoa, so that it is possible that chorionic particles are very active against syphilis; and in a case of conceptional syphilis the infection is milder, for the protective substances are augmented by the chorionic protein colloidal particles, which act at the site of infection.

It is along this line that Amand Routh has worked out his theory of the protective action of the chorionic ferments in pregnancy; and following Noguchi's observation on spirillolysis of the organism of syphilis, he has suggested, to explain the agent which Nature has provided for this spirillolytic action, that the chorionic ferments or syncytial toxins or their derivatives have this granulating power; and further, that they have the continued action on these granules, rendering them latent and biologically inactive, and perhaps in a few cases destroying them.

ANTE-NATAL MANAGEMENT.

In regard to the types of mother attending the clinic, Sequeira mentions three classes: (1) Those with a history of one or more miscarriages and no sign of active disease; a Wassermann test should be taken. (2) Those with active syphilis. (3) Primigravidae, with no signs; should a Wassermann test be taken probably one in a hundred normal women without syphilis would give a positive result. In some ante-natal clinics a blood test is taken of all patients. A positive Wassermann in this group should be verified by a luetin or Sigma reaction. In a suspicious case the Wassermann test of the husband and of any previous children is taken, and if any of them are positive the woman should be treated.

In the investigation of patients all these groups should be carefully gone into, with a detailed past history, remembering Beck's statement[27] that only 18 per cent. helped by their own history or by a physical examination, but 60 per cent. helped by the previous history of miscarriage, stillbirth, living syphilitic infants, or a tendency to carry each successive pregnancy further. A very close record should also be kept of all miscarriages and stillbirths, and all those due to syphilis determined.

Difficulties of Diagnosis in Women.

The elusiveness of the history, and frequent modification of the course of the disease, are common difficulties. A number of cases of congenital syphilis pass, especially in women, run latent course, and are not recognized. Congenital syphilis in women and in the third generation has an especial tendency to run a mild latent course, sometimes without any clinical sign or symptom. Many women acquire syphilis without recognizing any of the earlier stages, through ignorance or because the early symptoms are slight or entirely absent. It should be remembered that mothers admitted with gonorrhoea often have syphilis as well; a Wassermann test should therefore be taken in cases of gonorrhoea. Those with a suspicious history should in some cases be given a luetin skin reaction and a provocative Wassermann test, some a test of the cerebro-spinal fluid. A Wassermann test is regarded as positive when a 2, 3, or 4 *plus* reaction with an alcoholic antigen is obtained.

Points in Connexion with Treatment.

It is never too soon or too late to give the initial injection—either before the woman becomes pregnant if possible, or within an hour of the commencement of labour. Though a few are refractory, most pregnant women are extremely amenable to treatment. Surprising results occur from apparently very inefficient treatment, and almost ideal results follow from efficient treatment. Every syphilitic woman should be treated during pregnancy with salvarsan, though she may have undergone previous systematic treatment, a negative Wassermann reaction or only very old-standing disease being no objection.

Precautions in carrying out the Treatment.

Avoid pain as much as possible, or the patients will not come back, and it is difficult enough to induce them to continue treatment as it is. Watch the urine carefully for signs of albuminuria. Continue the mercurial treatment till there are signs of increased salivation. Take great care of the teeth, attending to dental sepsis early in pregnancy. If intravenous medication shows signs of too rapid absorption, the treatment need not be discontinued, as bad symptoms do not appear again if intramuscular injections be given instead.

Routine of Treatment.

A. For those cases in which there are primary or secondary signs present. Each clinic will have its own plan of treatment of an ordinary case of syphilis, and it is always most satisfactory to give the course on the premises where the woman is going to be confined.

B. For those cases of latent disease in which no primary or secondary signs can be found. At the Leeds Maternity Hospital a routine suggested by Colonel Harrison is being used with most satisfactory results. Weekly injections of neokharsivan, starting from 0.3 gram, being given, increasing up to 0.6 gram with weekly rests at the 4th, 7th, 10th, 11th, 12th to 21st, 26th to 28th weeks; hydrarg. cum creta, grain 1, being administered thrice daily all the time; potassium iodide, grains 7 to 10, thrice daily during the 10th to 12th and the 26th to 28th weeks.

C. Post-natal treatment is most important, being combined with the breast-feeding, and the case should be followed if possible for two to three years after the Wassermann reaction becomes negative, remembering that some never become negative.

THE SYPHILITIC INFANT.

The newborn syphilitic child may be healthy, showing no signs for six weeks or more; or he may be the typical old man, small, wizened, atrophied, puny, weakly and sickly, skin flabby, wrinkled, and of a brownish colour. He may have oedematous limbs and face, and a large abdomen, with bad circulation and a bluish tinge all over, and appear as if going to die, and will certainly do so if left untreated. He usually shows signs if untreated in the first month, and 80 per cent. of syphilitic children shown signs before the end of the second month. Practically all show signs of syphilis before six months, most of the mothers being in the secondary stage of syphilis, only a tenth of them having the primary condition. The child may show no signs at all except progressive and unaccountable loss of weight, indeed losing many ounces in a day or so, and as suddenly stopping with the institution of antisyphilitic treatment.

Points in Management.

1. Every infant of suspected parents should have a Wassermann test taken at birth, and again on the tenth day, when the result is more reliable; then every four weeks up to six months, then every three months to two years.

2. The type and time of infection should be carefully considered—as, for example, there is no need to treat a child where the mother has been infected during the last two to three months of pregnancy, if the Wassermann test is satisfactory.

3. Infants with one or both parents giving a positive Wassermann reaction should, if the infantile test be negative, be carefully watched, and probably should be treated if there is any ground for suspicion at all.

4. If any clinical signs appear, even though the infant is serologically negative, treatment should be established.

5. The Wassermann test has to be very carefully and delicately done, using cholesterolized extracts for antigens.

6. Some recommend other reactions—for example, luetin for children, sometimes with a provocative Wassermann test.

7. In a series of 1,500 ante-natal patients, 13 per cent. were diagnosed as syphilis by the positive Wassermann test only, and verified by the luetin reaction in 50 cases, giving a pustular reaction in 77 per cent. of these.

8. Drugs should not be injected into the superior longitudinal sinus nor blood taken from it; intramuscular injections and Adams's bayonet needle for taking blood from the heel give very satisfactory results, and are extremely simple of management.

9. The average number of galyl injections needed to get a positive to a negative is 10.

10. In some cases salvarsan must be given within an hour of birth.

Principles of Management.—At birth blood is taken from the mother, placenta, and child for testing, though in infants a positive reaction is of little value as proving congenital syphilis.

All children with negative Wassermann reaction at birth keep so for ten to twenty months. Of positive children at birth most are negative between three weeks and twenty months later.

The Wassermann test is less reliable from the infant at birth than on the tenth day. In 1,000 unselected cases there was a positive Wassermann result in 10 per cent.[30] Salvarsan and mercurial treatment has a more certain and quicker action in producing a negative Wassermann reaction in children than in mothers.

Routine of Treatment.

Many methods of treatment have been outlined, but mention only will be made of that line of treatment along which Mr. John Adams works at the Thavies Inn Clinic with such conspicuous success.

A. Blood is taken for the Wassermann test at birth, on the 40th, 80th, 176th days; then every two months up to two years; then less frequently up to seven years, according to the progress of the case.

B. Intramuscular galyl in glucose is given in doses of 1.25 cg. to 3.5 cg., on the 8th, 22nd, 36th, 50th, 64th, 78th, 120th, and 134th days; at the 9th and 12th months courses of three injections of 4 to 5 cg. galyl and 1/2 grain mercury should be given and hydrarg. cum creta, grain 1, daily for a month.

C. Intramuscular mercury is given on the 8th, 22nd, 36th, 50th, 64th, 78th, 120th, and 134th days; from 1/6 grain to 1/3 or 1/2 grain of hydrarg. cum creta is crushed up in the feed, at first daily then twice daily.

D. Further treatment is governed by the progress of the case; should the Wassermann test become positive at any later date intensive treatment should be begun immediately.

E. Breast-feeding should be the rule, remembering that the milk of a syphilitic mother is often deficient in quality and quantity, so that it may be necessary to supplement it; also that infection of the mother after the seventh month is a contra-indication to breast-feeding, for then it is agreed the baby will be born healthy, and as the spirochaete has been found in the milk of nursing mothers, the infection would easily be passed on to the child.

Fordyce and Rosen[36] had a series of 140 cases of children, born of mothers with + + + Wassermann; 88 had evidence of syphilis, the Wassermann was positive in all, and clinical manifestations in 20. All were treated with neo-arsphenamin and mercuric chloride, with good results.

Mr. John Adams's figures obtained at the Thavies Inn Clinic show the following extremely satisfactory results:

Years.	No. of Mothers with Syphilis.	Babies Alive.		Babies Dying.	Stillborn.
		Wassermann Reaction			
		Positive.	Negative.		
1917-18 ...	28	17	6	3	5
1918-19 ...	30	8	21	1	1
1919-20 ...	37	1	36	0	0
1920-21 ...	23	5	16	0	2
1921-22 ...	18	7	9	0	2

It is hoped that figures will soon be forthcoming of the results of the following up of such cases to puberty, so that a clear idea may be obtained of the real benefits accruing from treatment which has been efficiently carried through, in the campaign against the protean phenomena of congenital syphilis. Finally, I may urge, in the words of Dr. Sequeira, the importance of co-ordinated effort; the ante-natal clinic, the infant welfare centre, the children's clinic, and the venereal clinic must work in co-operation, and then we can hope to see the passing of congenital syphilis.

The writer is very much indebted to Mr. Adams of the Thavies Inn Clinic for his kindness and courtesy.

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ROENTGENOGRAPHIC PELVIMETRY.*

BY

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THE addition of roentgenography to our obstetrical resources enables us not only to see the size and shape of the mother's pelvis and of the foetal head, and the relations of the one to the other, but also to measure the pelvic diameters, both of the inlet and the outlet, without vaginal examination. Since the existence of contracted pelvis was first reported by Arantius various methods have been employed for diagnosing the existence and measuring the extent of the pelvic deformity.

External pelvimetry, introduced by Baudelocque, while enabling us to measure directly the external pelvic diameters, and thence to draw certain conclusions as to the degree of contraction, is insufficient for estimating the size of the pelvic cavity. This cannot be done directly in the living woman, except by a laparotomy. Every obstetrician has encountered cases which appeared on external examination to be normal, but when labour was advanced unlooked-for difficulties presented, when it was too late to do an abdominal operation. In the same way one meets cases where there is external pelvic deformity and where one anticipates a difficult confinement, but in which, on the contrary, labour is quite unobstructed and the infant is of average size.

Internal pelvimetry—a method devised by Skutsch—made it possible to estimate the size of the pelvic cavity indirectly and with fair accuracy, but the employment of his instrument necessitates an anaesthetic, if discomfort or actual pain to the patient is to be avoided.

The Roentgen rays, it was thought possible, might afford a valuable method of investigating the size and shape of the pelvis, but it was found that, while an excellent idea as to shape was obtained, that as to size was erroneous, owing to the fact that the sacrum and pubis lay at different levels from the sensitive plate, and consequently one portion of the pelvis was enlarged out of all proportion to the other. This defect made it impossible to utilize radiography for purposes of mensuration.

The employment of the following method will obviate this difficulty and make it possible not only to see the existence and extent of the pelvic contraction both of the inlet and the outlet, but also to compare the pelvis under examination with the normal pelvis, and to measure its diameters without causing any appreciable inconvenience to the patient.

Position of Pelvis.

Before discussing the technique of this method of pelvimetry a few anatomical facts on the position of the pelvis should be noted. In the erect posture the pelvis is placed obliquely with regard to the trunk of the body. The base of the promontory of the sacrum, in well formed females, is nearly four inches above the upper border of the symphysis pubis.

The plane of the pelvic inlet, or true conjugate, forms an angle of about 65 degrees with the horizontal plane. Therefore with an anterior vertical plane it will form an angle of about 25 degrees. If the plane of the inlet is bisected by a line at right angles, one extremity will pass through the middle of the coccyx and the other through the umbilicus. The axis of the pelvic inlet is therefore directed downwards and backwards.

Technique.

The patient lies flat, face downwards, on the table with her symphysis pubis touching the plate carrier. The *x*-ray tube is raised two feet above the plate and focused on a point four inches below the mid-point of a line joining the posterior iliac spines; this point corresponds to about the middle of the coccyx. The tube is then tilted forward through an angle of 30 degrees, towards the patient's head, and it will then lie parallel to the plane of the pelvic inlet. The rays will thus be directed upwards and forwards in the

* An article by Dr. MacKenzie on roentgenographic pelvimetry with illustrations of the types of pelvis was published in the BRITISH MEDICAL JOURNAL of June 1st, 1918, p. 612.

axis of the true conjugate, and an excellent image of the pelvic cavity will be obtained on the plate.

In this technique there are three constant factors:

1. The point of focus.
2. The *x*-ray tube at the same angle to and at the same distance from the sensitive plate.
3. The relation of the symphysis pubis to the sensitive plate.

Having these three fixed points and using the shadow of the symphysis pubis as an axis we can accurately measure any object within the "tube radius."

The possibilities or error in interpreting the size of the inlet, because of the varying degree of tilting of the different pelves, are negligible in this method of pelvimetry. In a contracted pelvis the angle which the plane of pelvic inlet makes with the horizontal is greater than the normal, and the angle to the vertical will be correspondingly reduced. In a contracted pelvis the promontory of the sacrum will be nearer the plate than the normal, and be more easily defined.

Method of Measuring.

In a normal pelvic bone, which is designated the "standard pelvis," the various diameters, both external and internal, are accurately measured. When this bone is radiographed definite points can be marked on the plate; the distance between these points will bear a definite ratio to that between the corresponding points measured on the pelvis. This radiograph is taken as the "standard plate." By radiographing the patient in the same position as the "standard pelvis," an accurate comparison of the patient's plate with the "standard plate" will be obtained, and therefore of the patient's pelvis with the "standard" or normal pelvis; from it the internal measurements can be mathematically worked out. When compared with the direct measurements they are fairly accurate. To work out mathematically, for example, the transverse diameter of the pelvic inlet the length of the transverse diameter of the pelvic radiograph of the patient is multiplied by the transverse diameter of the standard pelvis, and divided by the transverse diameter of the standard plate. In the same way the antero-posterior diameter of the inlet, or the transverse diameter of the outlet, can be worked out. I have not mentioned the oblique diameters, but if the true conjugate is diminished the oblique will also necessarily be reduced in proportion.

The Foetus.

It is possible to obtain the *x*-ray shadow of the foetus *in utero*, and this is a great clinical and medico-legal advantage in cases in which there is doubt as to the presence of pregnancy or the existence of an abnormality. The earliest period at which I have been able to recognize the foetus has been during the fourth month, and only that part of the foetus over the inlet is demonstrable. There are several factors which militate against the diagnosis of pregnancy in the early months—namely, the thickness of the maternal tissues, the hypercongestion of the uterine walls, the amniotic fluid, and the slight density of the foetal bones. It is necessary to take the *x*-ray plate in the earlier stages, if pelvic measurements are required, for in the later stages, as will be readily understood, the outlines of the pelvis may be more or less obliterated by the presenting part. An accurate comparison between the foetal skull and the pelvic inlet can be obtained if the photograph be taken when the head is about to engage in the pelvis.

While it is possible to measure the diameter of the head which lies parallel to the transverse diameter of the pelvis, it is not so with the diameter which enters the true conjugate. Therefore dependence must be placed on comparison rather than measurement.

Even on finding the relations of the foetal head to the mother's pelvis satisfactory we must take into account the inability to judge the exact amount of mobility existing between the bones of the foetal skull, which, if soft, during the efforts of labour would mould themselves to the pelvis, but if densely ossified would be incapable of reduction in size.

The overlapping of the skull bones can be easily recognized during the first stages of labour. If engagement is impossible there is also distinctly seen overlapping by the foetal skull of the pelvic inlet, especially in the region of the symphysis pubis. The recognition of this inability on the part of the foetus to navigate the passages successfully would spare, by a timely Caesarean section, many a mother a difficult labour with extensive damage, and save the life of many a child.

Effects on the Mother and Foetus.

While it is recognized that large doses of the *x* rays will produce an artificial menopause, the short exposure which is required for obstetrical diagnosis has no deleterious effect on the mother, and does not even produce a temporary sterility. In none of my cases when the *x*-ray exposure has occurred during pregnancy has intrauterine death been produced, nor has any physical or mental maldevelopment shown in the newborn child.

Conclusion.

In conclusion, I would like to emphasize the following points:

1. The necessity of a "standard" plate for pelvic measurements.
2. The patient must be radiographed in the same position as the "standard" pelvis, having the same point of focus, the *x*-ray tube at the same angle and the same distance from the sensitive plate.
3. The accuracy of diagnosis in showing to advantage the variety of pelvic contraction, and the ease with which the various pelvic diameters can be worked out.
4. The minimum amount of discomfort to the patient compared to other methods of pelvimetry.
5. By the collaboration of the roentgenologist and the obstetrician there exists a valuable means of conserving maternal and foetal life.

To Dr. Beath, roentgenologist to the Royal Victoria Hospital, Belfast, and his assistant, Mr. Leeman, I express my gratitude for their assistance in taking the photographs shown to the Section.

DISCUSSION.

The PRESIDENT said that the Section was very much indebted to Dr. MacKenzie. The photographs he had shown were very striking, and there was undoubtedly a great future for this method. What they really wanted was a method whereby they could diagnose the small degrees of pelvic contraction, not the larger ones. He was rather doubtful whether this method would reveal these minor contractions. Another objection he had to make was the great difficulty that he met with in getting such excellent pictures taken.

Dr. JOHN CAMPBELL (Belfast) thought that due attention had not been paid to this important aspect of obstetrics. He personally had obtained much valuable information from this method. Accurate measurement of very minor degrees of pelvic deformity could be obtained. The attention of the profession should be directed to this method, as it gave information which could not be obtained by other means.

Dr. LOUISA MARTINDALE (London) drew the attention of the meeting to some beautiful photographs of foetuses which had recently been taken in Germany.

Dr. HENDRY (Glasgow) expressed his admiration for the plates. His only objection to the method was that it did not allow of manipulation of the head to see what difference flexion, etc., might make to the prospects of normal delivery. Such information could be obtained by Professor Munro Kerr's method of examination.

Mr. LANE ROBERTS (London) asked whether any movements of the sacro-iliac joints had been observed during the taking of these skiagrams.

Dr. MACKENZIE, in his reply, said that it was entirely due to the encouragement he had received from Dr. John Campbell that he had persevered with the method up to the point of perfection they had so far obtained. The most minor degrees of contraction—to one-twelfth of an inch—could be recognized by this method. He had been able to identify a four months' foetus *in utero*, a point of valuable medico-legal significance. The great advantage offered by his method was that it would be possible at an early stage of pregnancy to discover whether the pelvis was normal or not. He had not had any experience in these photographs of movements of the sacro-iliac joints.

SECTION OF LARYNGOLOGY AND OTOLOGY.

E. B. WAGGETT, D.S.O., M.B., B.Ch., President.

DEFORMITIES OF THE SYPHILITIC NOSE.

BY

H. D. GILLIES, C.B.E., F.R.C.S.

THERE are three classes of deformities in the syphilitic nose, according to the extent of destruction caused by the disease:

1. A small amount of cartilaginous septum with mucous membrane may be lost.
2. The common type—loss of the bony cartilaginous bridge, combined with great destruction of the mucous membrane.
3. The same type of destruction as in Class 2, but with the additional destruction of some or all of the external skin.

The repair of the deformities varies according to the amount of destruction; in other words, the diagnosis of the deformity rests on the accurate estimation of the amount and character of the tissue lost.

FIG. 1.

FIG. 2.

FIG. 3.

FIG. 4.

FIG. 5.

Figs. 1 and 2 show the condition before operation; Fig. 3 the result of the first operation—intranasal skin graft; and Figs. 4 and 5 the appearance of the patient (full face and profile) after the second operation—cartilage graft.

CLASS 1.

In this class (which is not common) the deformity resembles that so often seen following a septal abscess or a too vigorous submucous resection. The deformity is confined to the bridge of the nose and is due to loss of the cartilaginous support. All that is necessary in this case is to supply by implantation a piece of cartilage of the shape and support originally given to the nose by the septum. The method of operating has already been described in the *Proceedings of the Royal Society of Medicine* of this year.

CLASS 2.

The common or typical syphilitic nose is to be severely distinguished from the above type in that there is a large loss of mucous membrane lining the nose in addition to the osteo-cartilaginous support. Consequently, in accordance with the principles which have already been enunciated, no satisfactory result can be obtained without supplying a substitute for the mucous membrane in addition to supplying a substitute for the missing bridge of the nose.

Many surgeons have attempted to repair this class of syphilitic deformity by means of cartilage or bone implantations, or even paraffin injections, without in the first place realizing the loss of mucous membrane, or, in the second place, of attempting to supply this element; and although in some cases an improvement has occurred, there is always a peculiar look about the nose which, even to the untrained eye, is strongly reminiscent of the disease from which the patient originally suffered; whereas, if the mucous membrane be regrafted, in one operation the whole character of the nose will be changed, and the syphilitic appearance of the patient entirely removed.

As will be described presently, it is not possible to graft mucous membrane, as such; consequently, thin Thiersch-grafted skin is made to take its place; but when this part of the operation has been successfully performed the nose takes on the appearance of a simple depressed fracture, which can be readily remedied by the implantation of cartilaginous support. This provision of a mucous membrane lining in a syphilitic nose is so important that the methods of introducing the skin graft should be described.

If the photograph (Fig. 6) be examined it will be seen that there is entire destruction of the whole osteo-cartilaginous support, and, in addition, an extreme retraction of the tip and alae of the nose, without any concurrent loss of the external skin; in fact, the skin of the vestibule is intact—the destruction having stopped short at the more resistant skin element—consequently you will find this skin of the vestibule firmly adherent to the margin of the altered pyriform opening.

In order to bring the tip of the nose and the alae down into their respective normal positions it is necessary to divide freely their attachments to underlying bones. If the skin be undercut in this manner it is possible to pull the nose out like a concertina, and on examining the nose in its now normal position a very large raw area, uncovered by any epithelium, will be discovered facing the nasal cavity. It is this raw area that should be skin-grafted.

FIG. 6.

FIG. 7.

FIG. 8.

Fig. 6 shows the condition before operation; Fig. 7 the result of the intranasal skin graft; and Fig. 8 the result after the second operation—cartilage implant.

Method of Operation.

The case is first referred to a competent dental surgeon, who makes a small removable cap splint for the upper teeth. To the centre of this splint an upright semi-flexible wire, with expanded ends, is attached; it should be of such a length that it will come to lie approximately under the raw area. The splint being already on the teeth, an incision is made in the upper buccal sulcus from one canine fossa to the other. The soft tissues are separated from the bone until the nasal cavity is reached and opened.

The incision is now carried up laterally until the alae are freed from their various vicious attachments to the remains of the pyriform opening. Still further the incision is carried up over the remains of the bony bridge to the root of the nose (care being taken not to injure the outside skin) and laterally to the region of the inner canthus on each side.

It will now be found, on pulling gently on the tip of the nose, that the shape of the organ can be exactly reproduced, at which stage one realizes that the undercutting process has been sufficient.

It now remains to skin-graft the raw surface produced on the under surface of the skin of the nose, and for this purpose pressure must be applied by the method of Esser modified by various surgeons at Sidcup, and applied by me to this particular purpose.

Dental modelling composition is sterilized by boiling, and a sufficient quantity in a pliable state pushed in through the mouth opening into the cavity made by the undercutting process; but, before this—to prevent the moulding material passing to the post-nasal space—plugging should be inserted into the nose and left flush with the pyriform opening. The moulding material inserted may now be pressed up from the outside with the fingers, so as to reproduce the shape of the nose, but in order to allow for a certain amount of contraction of the skin graft it is better to overdistend the raw area at this stage.

While the moulding material is still warm the upright with expanded end, also heated, can be pressed into the mould and fixed by a screw to the dental splint. While the surgeon is manipulating the mould into a convenient shape the assistant pours cold water over the surface of the skin, or sprays cold water up the nostrils or through the mouth opening.

Fig. 9.

Fig. 10.

Fig. 9 shows the first stage of reconstruction — namely, replacing the tip of the nose into its normal position by division from its vicious attachments —in a case of extensive destruction of the nose. Fig. 10 shows the appearance of the patient after rhinoplasty by tube pedicle from arm.

The mould now sets hard, and can be withdrawn together with the upright portion of the splint. Sometimes difficulty is experienced in removing the mould, either because the opening from the mouth into the nose is not big enough, or because some of the moulding material has been expressed out of the nose into the anterior nares and sets there; this causes a sort of hook and prevents the removal of the mould. These little complications can be avoided during the setting of the mould by cutting off the excess portions with a hot spatula.

Examination of the mould will now enable the surgeon to see which portions of it have been in contact with the raw surface produced by the undercutting. They are usually confined to the whole of the front surface of the mould and the lateral portions of the back. It is this area that requires skin-grafting. The plugging inserted to prevent the mould being pressed to the back of the nose is now removed.

The removal of a large graft is the next essential. If the patient is a male, an area free from hair is chosen on the arm or forearm; if a female, the graft is taken from the inner side of the thigh.

It is of enormous importance, both for the success of the graft and for the ease of application, that the skin graft should be cut sufficiently large to cover the whole area in one piece. There seems to be no royal road to the successful cutting of big grafts, the personal factor of the surgeon, the patient's skin, and assistance, all being important, and the impersonal factor of the keenness of the razor being perhaps the most important.

The graft is now taken and stretched firmly over the whole surface of the mould corresponding to the raw area so that there are no wrinkles or slackness in the graft, the raw surface of the skin graft being, of course, outermost.

When the graft is a big and good one, the gloved thumb is the most useful spreader. When the graft is in shreds or smaller pieces, recourse should be had to non-rat-toothed dissecting forceps.

Care should be taken that the graft reaches well over the top to the back surface, so that when the graft and mould together are pushed into position there is no disturbance of the position of the graft on the mould. The wound is cleared of clot, and the mould with skin graft thereon is inserted.

It now remains to fix the upright of the splint and send the patient back to bed.

At the end of ten days the case is referred to the dental surgeon, who removes the mould gently and cleans up the cavity, when the whole of the raw surface of the nose will be found to be perfectly covered with skin. It is as big a certainty as there is in surgery.

Either the same mould cleaned up, or a fresh one made of black gutta-percha, is now inserted, and can be removed daily for another week or ten days by the doctor in charge of the case. At the end of this time the graft is quite firm, and the case can be handed to the dental surgeon to be fitted with a more permanent appliance. This is moulded by the dental surgeon so that the nose takes on a good shape, and the mould can be removed by the patient daily for cleaning.

In order that the mould should be removable there is naturally a displacement forwards of the upper lip, a deformity which must be endured until the final stage.

The patient is sent home for two months, when the second stage is performed, which consists in the implantation of a cartilaginous bridge between the outer skin of the nose and the inner skin graft. Sometimes the cartilage can be put in through the columella, and sometimes through the glabellar region.

Fig. 11.—Showing author's modification of Italian rhinoplasty by tube pedicle.

The appliance is now discarded, and the lip allowed to fall back into a normal position. If a permanent oro-nasal communication remains, sufficient of the opposing surfaces may be rawed to ensure its closure. The two cases (Figs. 1 to 8)* are published to illustrate the surprising results obtained by this method.

Class 3.

When there is destruction of the outside elements of the nose in addition to the above, the case develops into one of more or less extensive rhinoplasty.

The methods of rhinoplasty in specific cases differ little from those of any other destruction of the nose, save that in specific cases some small portion of the columella or portions of the bridge skin only may be destroyed. The scope of this paper does not admit description of the various methods of rhinoplasty.

The best result can usually be obtained by a combination of the method described under the second heading, coupled with the requisite grafting of the new columella or other portion: having carried out the two stages as described in Class 2, a columella was provided, and the final result was of a pleasing and satisfactory nature.

In another more extensive destruction of the bridge of the nose I was foolish enough to attempt to implant cartilage as a means of restoration, for although a satisfactory raising of the bridge occurred, the syphilitic character of the deformity remained, and the anterior nares still looked forwards instead of downwards. The

* Figs. 1 to 5 were reproduced in *Plastic Surgery of the Face* (Oxford Medical Publications).

method originated during the war by the speaker is more applicable in this class of case, and the first step should be a division of the nose horizontally above the alar cartilages. An incision is carried right through into the nasal cavity, and, laterally, above each ala until the tip of the nose, alae, and columella resume a normal position (Fig. 9). A large fistula is then apparent in the middle of the nose, the margins of which, after trimming, are treated by sewing skin to mucous membrane to prevent retraction of the tip.

The case is left for two months, at the end of which time reconstruction proper is carried out. Skin flaps, suitably designed, are hinged across the gap with the skin surface towards the nasal cavity to complete the lining of the new nose.

A shaped flap is then taken from the forehead, or, as in this case, from the arm, to complete the nose. (Fig. 11.) Two weeks later the pedicle is divided. It remains at a later date to trim the nose and to insert the new cartilaginous bridge (Fig. 10).

It is to be noted that there is undoubtedly a greater risk of gangrene occurring in a flap in a syphilitic case, which may be due to some change in the arterial walls.

I sincerely hope that these few remarks will induce the plastic surgeon to attack these syphilitic cases of nasal deformity with more definite principles and more gratifying success. Unless an adequate provision be made for the loss of the mucous membrane in these cases the appearance of the patient, however improved by the operation, will continue to be that of a typical syphilitic, who will still be shunned by his fellows. The patient should be under control by specific remedies, but a positive Wassermann reaction is not a contraindication to reparative proceedings.

ORGANOTHERAPY IN DISEASES OF THE EAR, NOSE, AND THROAT.

BY

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If one were to be asked to state in general terms what subject was engaging the attention of the greatest number of medical men at the present time, I think that the truest answer would probably be "endocrinology."

The influence of the endocrine organs on the economy is so widespread, and their derangements are so common, that specialists in every branch of medicine are bound to consider the question of hormonic dysfunction in relation to almost every morbid process, and to experiment freely with various glandular extracts to endeavour to determine whether any useful therapeutic effects are to be achieved by their exhibition. This applies not less to oto-laryngo-rhinology than to other branches, and I wish to present a few notes to this Section, in order if possible to arouse discussion and stimulate interest in the subject.

Some of us may, perhaps, be so interested in the surgical, operative, and manipulative side of our specialty that we tend to forget the claims of internal medication. While, naturally, a course of thyroid feeding would be useless, say, in a case of lateral sinus thrombosis, yet there are numerous conditions in which organotherapy forms a useful adjuvant to surgery; some in which it may be tried with a fair hope of success; and possibly a few where it may throw light on otherwise obscure problems of pathology and treatment.

There are so many organs which supply an internal secretion necessary to health, the manifestations of their derangements are so complicated, and the interactions of the various endocrine organs are so intimate, that it is difficult in many cases to lay down rules for the exhibition of the different glands, but I may perhaps be allowed to formulate certain general rules of endocrinology.

1. The endocrine organs may affect the organism unfavourably from (*a*) excessive secretion, (*b*) deficiency of secretion, (*c*) perverted secretion.

2. Alterations in the quantity or quality of the secretion of one organ may produce alterations in one or both directions in that of one or more other organs.

3. If an organ is secreting less of its particular fluid than is required for the needs of the body, feeding the patient with that extract will not only supply the deficiency at the time, but, if the process is a functional one, or mild organic, it will give the diseased organ a rest, and enable it to take up its duties in full later on.

4. An endocrine organ may enlarge on account of a demand made for an increased supply of its secretion, possibly from a distant part of the body. Feeding it to the patient will relieve the strain on the gland and enable it to keep its normal size.

Bearing these principles in mind, let us consider under what conditions the use of glandular extracts may be found useful in the treatment of diseases of the ear, nose, and throat.

McCarrison[1] has shown that intestinal and other sepsis causes an increased demand for thyroid secretion. This leads to increased thyroid activity, acinar proliferation, and round-celled infiltration, resulting in a goitre. The round cells undergo their usual transformation into fibrous tissue, the glandular elements are strangled, and finally a condition of hypothyroidism results, with an enlarged thyroid. The action and results of the round cells in these cases is very similar to the process seen in scirrhous cancer.

It is very interesting, in view of McCarrison's work, to notice how swollen thyroids associated with sepsis often diminish in size when the sepsis is cured.

Miss R. N. consulted me on January 25th, 1922. I need not detail her symptoms, etc., but the condition was one of post-influenzal empyema of the antrum of Highmore. The thyroid was distinctly swollen—the circumference of the neck was 37 cm. She had not noticed the swelling until I pointed it out. I washed out her antrum, and was successful in getting a clean sinus after two weeks' treatment. At this time the circumference of the neck had diminished by 2 cm. This may not seem a great decrease, but, as McCarrison points out,[2] "an increase of three-quarters to one inch represents a doubling of its volume, and a still further increase of a half to three-quarters of an inch a quadrupling of the gland's volume. These figures are approximately correct for necks whose normal circumference is 13 to 16 inches."

I have so often observed thyroid enlargement in cases of nasal and aural suppuration that I am now in the habit of prescribing small doses of thyroid extract from the first interview, as well for cosmetic reasons as to supply the increased secretion required by the body for the combating of the sepsis. Of this need the thyroid enlargement is the signal and proof. If the gland does enlarge the dose is increased.

McCarrison[3] points out the necessity for a careful search for septic tonsils or nasal sinuses in all cases of exophthalmic goitre. I may here remark that it is a difficult matter to get accurate measurements of the neck, and very easy to make a mistake. The best way is to take a definite point, fore and aft—that is, to place the tape over the vertebra prominens behind and the most prominent part of the gland in front. At present I have a young lady under my care who was tracheotomized in infancy. The scar makes a most valuable landmark.

Occasionally we see cases which may be referred to the pituitary. The amount of information which has been collected about this organ in recent years is astonishing. When preparing this paper I had the curiosity to look up the Halliburton's *Physiology* which I used in my student days. It is dated 1900. All that is there stated about the physiology and pathology of the pituitary is comprised in the statement, "A disease of the pituitary body produces the condition known as acromegaly, in which the bones of the limbs and face hypertrophy." Compare this with the fifty pages—one-seventh of the whole—devoted to it in Mason's *Endocrine Glands* published last year. I shall not enter into the complicated functions and relationships of this important organ further than to say that the headache and eye symptoms associated with some of its derangements have to be diagnosed from sphenoidal sinus disease. The headache comes on in the morning, may persist or pass off during the day, is deep-seated behind the eyes, is frequently associated with ocular symptoms, and has often a relationship with the menstrual function.

I recently saw Mrs. S., aged 38; she has three children, the youngest 3½ years old. She menstruates every four weeks, for four days; flow somewhat scanty. She complains of deep-seated "boring" or "bursting" pain behind the eyes, especially on reading or sewing. The headache formerly began the day before menstruation, and ceased when the flow started, but for some months now has been almost continuous. She suffers from bad dreams. She has not noticed any increase or diminution in the amount of urine. Her carbohydrate tolerance is fairly high, about 130 grams. She has been getting stout for twelve months. She is and always has been sexually frigid. She wears glasses for reading and sewing which were prescribed by an optician. The nose was normal; no signs of intranasal pressure or pus. I referred her to Dr. Walter Sykes of Preston, for an opinion on her eyes. His report was: "The eyes are emmetropic, she gets full vision under homatropine. The fields are slightly contracted in both eyes, and the veins on the discs are very engorged." I put her on pituitrin whole gland tablets (Armour) and in less than a week all the headache had vanished. She is now able to read with comfort, and only takes the tablets for a week before menstruation begins.

I do not know whether cases of this type can in any way be correlated with those referred to by Sir StClair Thomson in the BRITISH MEDICAL JOURNAL of June 2nd of this year, where the sphenoidal sinuses have been opened for retrobulbar neuritis, and found to be healthy; but I think that this case opens up an interesting field for inquiry. Mrs. S. was certainly suffering from pressure on the optic tracts, and this pressure has been relieved, in my opinion, by taking the strain off the overworking pituitary. I quite admit that the time (three months) is too short to make any definite pronouncement, but I shall watch her future with interest.

In cases where we find a diminished power of conduction of the eighth nerve, it is not sufficient to label the case "labyrinthine deafness," order strychnine and massage, and pass it on to the group of uninteresting incurables. More particularly does this apply to the period of late middle life, before senility has set in. Each case should be examined on its merits and a more definite diagnosis arrived at. Among the more important causes are:

Haemorrhage into the labyrinth.
Leukaemia.
Syphilis.
Locomotor ataxia.
Concussion.
New growths affecting the labyrinth, eighth nerve, or brain.
Suppurative labyrinthitis.

With these I do not propose to deal.

Diabetes.
High blood pressure.
Low blood pressure (asthenia).
Climacteric deafness.
Neuroses, including hysteria, neurasthenia, and psychasthenia.
Hypothyroidism.

Many of the latter group are amenable to organotherapy.

Diabetes.

Since the researches of the Toronto school hormone therapy in the form of insulin injections has definitely come into being. I need not enlarge upon this subject, as we would probably refer such cases to an appropriate physician; but it is well to bear in mind that deafness may be the first symptom of an otherwise unsuspected glycosuria. I have seen several such, and thereby received a useful reminder that it is always necessary to examine the urine in cases of labyrinthine deafness.

Abnormal Blood Pressure.

I find that the sphygmomanometer is one of the most invaluable instruments in my armamentarium. No case of nerve deafness should be allowed to leave the consulting room without having the blood pressure estimated.

Cases of high blood pressure due to renal or cardio-vascular trouble we also generally refer to the physician, but there is a large group of cases termed by Sir Clifford Allbutt "hyperpiesis," in which the high pressure does not depend on heart or kidney disease, which the aurist may wish to treat. These people are often afflicted with nerve deafness, and that bugbear of the otologist, tinnitus. Here again the deafness may be the only symptom which the patient has noticed. It does not add to one's reputation if such a case is missed, and subsequently the cause is detected by a more wideawake colleague.

I am not going to be so foolish as to tell an audience like this that I know of a universal panacea for tinnitus, but I do state that many cases can be relieved, if due to high blood pressure, by appropriate treatment, including the exhibition of certain glandular extracts. Picture to yourselves the idea of a man, say about 50, well or excessively nourished, of full habit, inclined to stoutness, a good walker and golfer. He comes complaining of an annoying singing in his ears. Subjective tests show some loss of bone conduction, lowering of the upper tone limit, and the usual findings in cases of loss of conducting power in the auditory nerves. At the same time the deafness is greater than is usual for his age, and we can detect no other signs of premature senility. The female type generally is of stouter build, past the menopause, and complains, when questioned, of hot flushings and "done feelings." Physical examination is generally negative, except that the blood pressure is high, anything from 180 upwards.

There is not time in this short paper to discuss the whole pathology of the condition, but I may say that in my experience such cases, generally speaking, do well, not only as regards their general condition, but also as to the ears, on various hormonic remedies. It may be necessary to try several glands, or combination of glands, but it is worth persevering till a suitable line is discovered. Those which I have found most promising are the pancreas, thyroid, and the gonads. The condition may frequently be attributed to a hyperadrenia. Measures must be taken to diminish the adrenal secretion by attention to the bowels (frequent large high enemas are of great value), reducing the amount of animal foods and alcohol, attention to the general hygiene of bathing, exercise, and fresh air, and the diminution of mental strain and worry. Cannon has shown that the latter factor is an important one in the overstimulation of the adrenals. The problem is made more difficult by the fact that the male patients are usually, at any rate in the North, successful commercial men who have the strain of a big business on their shoulders, and are apt to be somewhat intemperate as regards both food and drink.

Pancreatic extract is recommended for two reasons: first, it assists in digestion, and tends to prevent thereby the formation of toxic bodies in the intestine which overstimulate the suprarenal capsules; and secondly, and more important, because the pancreas is a well recognized opponent of the adrenals.

It is a remarkable fact that high blood pressure is much less common in women before the climacteric than in men of similar age. Alvarez[4] attributes this to the controlling power of the ovaries, and it is precisely at the time when these organs go out of office that we find the blood pressure tending to rise in the female sex. A similar remark applies, though less definitely, to the male organs. It is therefore reasonable and useful to employ ovarian or testicular extract in high blood pressure deafness. Some work has been done suggesting that the gonads act best if administered to the opposite sex, but of this I have no personal experience. The thyroid, from its power of detoxication, de-aminizing, and clearing away cellular infiltrations, is a valuable adjuvant or alternative. These may be given separately, or in the combined tablets supplied by various firms.

Asthenical, Hysterical, and Neurasthenical Affections of the Ear, Larynx, and Pharynx.

These may be considered together. I need not dilate upon the symptomatology, which is perfectly well known to every member of the Section. During the past few years the number of cases of eighth nerve paresis due to influenza has been very great. Many observers consider that the post-influenzal asthenia is mainly due to adrenal exhaustion. Acting on this idea I have found great benefit is to be gained from giving adrenal gland in such cases. The whole gland appears to be more effective than adrenaline, which is the extract or active principle of the medullary portion. This may be explained on the hypothesis that adrenaline is actually formed in the cortex, and stored in the medulla. It is quite possible that other substances of as yet undiscovered properties are produced in the adrenal cortex.

The sexual glands bear a part in the etiology of the various neuroses which are as yet imperfectly differentiated, but which are included under the headings of neuroses, psychoses, psychoneuroses, hysterias, and neurasthenias. These have in many cases a psychological basis, and can best be treated by the various methods of suggestion—hypnotism, psycho-analysis, dream interpretation,

etc.—beloved of our psychological friends; but many are due to a biochemical disturbance, as pointed out by Dr. Hurst at the Cambridge meeting in 1920. It would appear advisable, therefore, to make an investigation of the organs of internal secretion in cases of hysterical deafness, functional aphonia, paraesthesia of the pharynx, etc., and treat the patient according to the findings. I am in the habit of prescribing mammary gland, ovarian extract, and adrenal gland in these cases, in many of them with the happiest results.

As it is in many cases impossible to say which of the endocrines is the *fons et origo mali*, a polyglandular blunderbuss must sometimes be used. This is the more necessary owing to the interactions of the ductless glands, many of which are as yet but imperfectly understood.

Mrs. O., aged 33, was referred to me by Dr. W. C. Rigby, for an opinion as to whether the severe headaches from which she suffered were due to any intranasal condition. She complained of a "thumping" occipital headache, coming on several times a week, worst on awakening, and very severe before the menstrual epoch. Menstruation was of the 28/3 type, scanty, and accompanied by much lumbar pain. She was also deaf, and had been told that both drums were perforated, and nothing could be done. The nose was normal; there was no sign of pus, obstruction, or pressure. The hearing for low tones on the right and for high tones on both sides was diminished. Bone conduction seemed to vary, being sometimes increased and sometimes diminished. Both drums showed a dry anterior perforation, with patent Eustachian tubes. At my suggestion she was given a compound tablet containing ovary, thyroid, and pituitrin. She experienced immediate relief from her headaches, and, what was even more interesting, her hearing improved in a remarkable way. I have not been able to get a detailed examination recently, but whereas at first I had to shout at her, in a few weeks she could hear an ordinary conversation—in fact her husband said she could hear too much sometimes.

Hypothyroidism.

One should always be on the look-out for cretinism in deaf-mutes. Scholz states that 30 per cent. of the endemic cretins seen by him were thus afflicted. Besides such cases of advanced hypothyroidism, we frequently observe ear symptoms, especially tinnitus, in the minor grades. Hertoghe of Antwerp points out[5] the prevalence of chronic benign thyroid insufficiency (myxoedème fruste) and the frequency with which the diagnosis is missed. The symptoms are numerous, and include: infiltration of the skin with waste products; it becomes puffy and ill nourished, dry, rough, and desquamating; perspiration is diminished. Dermatoses are common: eczema among children, acne at puberty, herpes, psoriasis, urticaria, and recurrent erysipelas among adults. The hair is scanty, thin, and ill nourished; bald patches and premature greyness are common. The outer half of the eyebrows often falls out (*signe de sourcil*). The nails are often striated, brittle, and crack easily. The teeth are bad, and decay early in children with deficient thyroid secretion. The basic metabolism rate is diminished, the patients feel cold more than the normal individual, and suffer from dead fingers and chilblains. Constipation, cardiac weakness, and slow pulse are common. Desquamation of the bladder epithelium with consequent enuresis, low urea output, and a tendency to acidosis are frequent. Among other symptoms may be mentioned irregular menstruation, headaches, rheumatism, swelling of the eyelids, and mental sluggishness.

All these symptoms are of course rarely seen in one patient, but when several of them occur in combination with tinnitus a course of thyroid feeding will in a very short time show the correctness or otherwise of the diagnosis. Where there is no apparent local or general cause for tinnitus and any of the above mentioned symptoms are present I find the thyroid extract is often of the greatest value.

I think that I have said enough to show that there is a wide field for investigation along these lines. Many mysteries of hormonic therapy have still to be solved. I am convinced that, while the failures are many, the successes are remarkable, and sufficiently numerous to suggest that it is due, not only to our patients but to the interests of our specialty, that this method of treatment should receive its proper meed of consideration.

REFERENCES.
[1] McCarrison: *The Thyroid Gland.* [2] Op. cit., p. 4. [3] Op. cit., p. 202. [4] Alvarez: *Arch. Int. Med.*, October, 1920. [5] *Practitioner*, January, 1915.

CORRECTION OF NASAL DEFORMITIES.

BY
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[*Abstract.*]

DR. EASTMAN SHEEHAN described his method of operating by the columella route for the correction of depressions of the nasal bridge and columella, and also for the correction of other nasal deformities, whether caused by disease or trauma. He illustrated successive steps of his technique by cinematograph films.

He recommended that before any surgical procedure was attempted a photograph and plaster cast should be made, so that the surgeon was enabled to make a more satisfactory study of the case, and a record was secured which proved of great value for the purpose of comparison during and after reconstruction. Rib cartilage was unrivalled as a means of support for depressions of the nasal bridge; it could be shaped to any desired pattern, it was easily handled, it had the power to combat infection, and was durable and permanent. In prolonged plastic operations a local anaesthetic was preferable, a 1 to 5 per cent. novocain solution having proved, in Dr. Sheehan's experience, the most satisfactory. If a general anaesthetic was employed he had found intratracheal insufflation of ether to be the best.

Operation.

After the skin had been prepared, the airway on each side was packed with dry gauze; a vertical incision was made with a small, sharp plastic scalpel through the centre of the columella, extending through the under surface of the tip of the nose down to the philtrum. The incision was then deepened throughout its full length, until the vertical edge of the septal cartilage was reached. The septum on both sides was then exposed for a short distance, and the cartilage, if deflected and blocking the airway, could be removed in part or in whole. The cartilage of the columella, if present, was next removed, and the loose tissue of the nose was then separated on each side of the nasal bridge up to the infraglabellar region, and a bed made for the reception of the graft. The exact length of the cartilage required was determined by accurate measurements, and a triangular piece of cartilage was excised at the proximal end of the graft for the purpose of bending it to a right angle after the graft was shaped to the desired pattern. The perichondrium was removed except at the angulation, its purpose there being to hold the long and short limbs of the graft together; the perichondrium was also left at the far end of the short limb, where it was allowed to flare out to either side in order to hold the end firmly in place by suturing it to the deep tissue of the upper part of the philtrum, thus preventing tension upon the sutured part of the columella. Two mattressed sutures of fine silkworm gut closed the columella, and the raw surfaces were carefully and accurately brought together with a lock-stitch of horse hair.

As a rule, no bandaging was necessary, and the sutures were removed on the fourth day. In hump deformities and deflected noses the same incision in the columella was made, but it was not necessary to extend the incision to the deep tissue of the philtrum, nor to separate the septal membrane.

In the plastic repair of nasal deformities due to syphilis, one of the most important advances was the general recognition that the lining was as essential as the external covering. The lining could be obtained by means of a skin graft of the Thiersch variety, wrapped round a model of "stent," and either sewn or held in place by a dental splint or similar appliance. If the loss of mucous membrane was extensive, better results would be obtained by transferring a pedicled flap of forehead skin, thus ensuring against contractions. In replacing the loss of mucous membrane with a Thiersch graft a small balloon was inserted in the nose, which, when inflated, exerted even and firm pressure on the transplant. After four days the balloon was deflated and removed, and the nose was kept clean for a further period of four days and then irrigated.

Mr. V. E. NEGUS (London) read a paper entitled, "A newly described function of the vocal cords." He said that the larynx, apart from sound production, performed other functions, notably those connected with respiration and deglutition. He adduced evidence, derived from a study of comparative anatomy, indicating that pronounced modifications had been evolved in the larynx for the purpose of fixing the thorax for forearm work. These changes occurred more especially in arboreal types of animals. As a practical application of his theory Mr. Negus suggested

that when complete rest of the larynx was required the patient should be instructed not only to keep silence, but also to refrain from forearm efforts. This paper, which is intended as a preliminary communication, as further researches are being continued by Mr. Negus upon the subject, will appear in the *Journal of Laryngology and Otology*.

Dr. J. A. Gibb (Maidstone) read a paper, derived from his own experiences, on the referred pain of nasal sinus disease. He said that the site to which pain was referred was often disregarded. The position and severity of the pain did not appear to depend in all cases on the severity of the disease of the sinus. He detailed the areas for the various sinuses, and quoted cases illustrative of his thesis. This paper also will appear in the *Journal of Laryngology and Otology*.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

PAN-SINUSITIS AND SEPTIC THYROIDITIS.

The following case presents some features of interest, as the condition is comparatively rare; a somewhat similar case was recently reported by Sir StClair Thomson.[1]

A woman, aged 44, presented herself at the out-patient department of the Rochdale Infirmary on March 17th, 1923, complaining of severe occipital headache and marked tenderness of the thyroid gland. She stated that a year ago she became very susceptible to "colds," and shortly afterwards noticed some fullness of the lower part of the neck, in front. A week before attending at the infirmary she began to suffer from severe occipital headache and general malaise; the pain and tenderness of the thyroid gland began later in the same day. She had always been constipated. She looked acutely ill; the tongue was coated, temperature 100°, pulse rate 118. The thyroid gland was enlarged, firm, and very tender. There was no complaint of nasal discharge and the nose was not examined. She was admitted that day. Treatment by local application of heat to the neck was adopted, but the symptoms did not abate.

On March 21st Dr. E. H. Cox exposed the thyroid gland by a vertical incision, but apart from slight oedema of the overlying tissues nothing abnormal was seen. The gland itself was explored with a hypodermic needle and from each puncture a small quantity of serous fluid was withdrawn. A small drainage tube was left in position and the wound sutured. The symptoms greatly improved. Three days later the discharge from the tube became purulent. Seven days after operation the temperature, which had fallen to 98°, rose to 102°, the severe occipital headache returned and was accompanied by tenderness of the thyroid gland despite the abundant purulent discharge. These symptoms gradually abated and on April 11th she was free from symptoms except for a slight serous discharge from the sinus in the neck. On April 16th the severe occipital headache returned and her temperature rose to 102.2°. After a brisk purge she was free from symptoms and the remainder of her convalescence was uneventful. On May 19th she was transferred to the out-patient department, as there was still slight discharge from the sinus in the neck.

The fever and headache were treated on general principles, but throughout the illness great difficulty was experienced in keeping the bowels open. At no time during her illness did she complain of nasal discharge. The pus from the thyroid gland was not examined bacteriologically.

I had considered her infection to be of intestinal origin until I read Sir StClair Thomson's article. I then immediately requested Dr. P. A. Harry, ophthalmologist and laryngologist to Rochdale Infirmary, to examine her. He reported that there was pus in both middle meatuses, muco-pus in the left maxillary sinus, but none in the right, and that the anterior end of the left middle turbinate was enlarged and cystic. On June 28th he removed the anterior ends of both middle turbinates and the anterior end of the left inferior turbinate. The anterior end of the left middle turbinate was definitely cystic and showed evidence of chronic inflammatory changes. He also curetted the ethmoidal cells and pus was present in the scrapings from both nostrils. The patient is at present under treatment by Dr. Harry; she informs me that apart from slight discharge from the sinus in the neck she feels perfectly well.

I submitted the facts of the case to Dr. Harry, and he considers the occipital headache and the thyroiditis to be due to an acute exacerbation of the chronic nasal sinusitis. The fact that the patient noticed the thyroid enlargement simultaneously with her susceptibility to "colds" is of interest, as this may explain the origin of some of the rare cases of so-called "idiopathic" chronic inflammation of the thyroid gland.

[1] Acute Pan-sinusitis. British Medical Journal, June 2nd, 1923, p. 924.

My thanks are due to Dr. Harry for his observations on the condition of the nose, and to Dr. Cox for permission to publish this case.

Andrew Anderson, M.B., Ch.B.Glas.,
House-Surgeon, Rochdale Infirmary.

FACIAL PARALYSIS FOLLOWING HERPES FACIALIS.

The case of herpes with paralysis reported by Dr. Tomb (British Medical Journal, November 10th, 1923, p. 878) leads me to send the following notes of a similar case under my care.

On October 17th, 1923, I saw a Mrs. K., aged 50, who thought she had been bitten or stung by a small insect in the ear. She complained of intense pain on the right side of the face and forehead. I noticed some swelling of the external auditory meatus and surrounding tissues. The next day there was a very definite eruption of herpes involving the edges of the meatus and the concha, with complete facial paralysis of the affected side. The constitutional symptoms were severe: nausea, persistent vomiting, with severe headache and vertigo, and a temperature of 100.5° F. This went on for more than three days, and was accompanied by pain, sleeplessness, anorexia, and partial deafness (which, I venture to suggest, is due to paralysis of the stapedius muscle). No other lesion could be found to account for these symptoms.

This is clearly a case of herpes facialis with facial paralysis, and the paralysis is still total at the end of nearly four weeks. One point is, I think, of interest in view of recent controversies on the subject—namely, the incidence of some cases of varicella in the village at the same time. During the last two years I have observed four cases of herpes zoster in the same village, which were also coincident with an epidemic of varicella; one, a case of exceptional severity, actually occurred in the father of a child suffering from varicella at the time.

Montagu Lawrence,
Sharnbrook, Bedfordshire. L.M.S.S.A.Lond.

Reports of Societies.

PULMONARY LESIONS OF INFLUENZA.

At a meeting of the Newcastle-upon-Tyne and Northern Counties Medical Society, held in the Royal Victoria Infirmary, Newcastle, on November 1st, with the President, Dr. R. Esmond Moyes, in the chair, Dr. A. F. Bernard Shaw made a communication on "The pathology of the respiratory system in influenza," illustrated by a series of lantern slides showing the histological appearances of the lesions.

Dr. Bernard Shaw first referred to certain data regarding the disease which had emerged from historical study and observations made in the last pandemic. Certain of these data bore more or less directly on the remarkable series of changes found in the respiratory tract, and could be adduced as evidence of the possibility that influenza did not fall within the category of a bacterial disease. It had been shown that epidemics and pandemics of influenza had affected man since the fifteenth century and probably earlier. It had frequently been described as a "new disease." Its manifestations were extraordinarily protean. The phenomenal rapidity of spread was unlike a bacterial disease and in spite of the enormous amount of work done recently there was no definite proof of its bacterial origin. No one had succeeded in inoculating healthy men with the disease. Probably no other acute disease so greatly lowered the resistance of the body to infection by bacteria as influenza. In the fulminating cases there was an intense tracheo-bronchitis with an aplastic exudate diffused throughout both lungs and necrosis of the epithelium at all levels of the bronchial tree. Later, localization of the process occurred together with a leucocytic reaction. At this stage there might occur as complications—acute bronchiectasis, abscess and gangrene of the lung. In those cases which survived a few weeks there was found extensive organization of the exudate leading to obliterative bronchiolitis, obliteration of alveoli

and eventually fibrosis of the lung and bronchiectasis. As a result of this marked tendency to organization it could be said that there was no other acute pulmonary infection which led to such distortion of the lung and impairment of function as influenza. Attention was drawn to the remarkable capacity for epithelial regeneration in the bronchioles which followed influenza, and sometimes the appearances almost suggested a new growth. The only lesions comparable to influenza were those produced in the lungs of animals subjected to inhalation of certain gases.

Perinephric Abscess.

Mr. R. J. WILLAN read a paper on "Perinephric abscess," excluding perinephritic abscesses secondary to a tuberculous vertebra or to an acute appendicitis. He had collected 43 cases of perinephric abscess where the records were more or less complete. The anatomy of the fascia renalis was discussed, and emphasis laid on the fact that, below, the two layers of this fascia do not blend, but lose themselves in the loose areolar tissue of the iliac region. This explained a direct tract between the abdominal true pelvis and the perirenal area. Of the 43 cases, 26 occurred between the ages of 21 and 30; 28 of the series were in males and 15 in females; 24 were right-sided abscesses, the right kidney, with its surrounding perinephric fat, being lower down and therefore more liable to injury. Sometimes perinephric abscess was due to outward extension of renal cortical abscess or infarct. Nine cases out of the 43 followed urinary sepsis, 8 followed trauma, 6 as a sequel to parturition, 3 to pneumonia, 2 to recent boils, 2 to enteric fever, 1 to sacculitis of the colon, 1 probably to gonorrhoea; in 10 cases there was no stated cause. In 8 cases of the series—that is, 18.6 per cent.—there was a definite history of injury. Mr. Willan's impression was that sudden tears and ruptures of the perirenal fat occur more often than was generally believed. Albarran had shown that he could artificially produce a perirenal abscess by injecting pyogenic organisms into a rabbit's ear and then bruising the perirenal tissues. *Staphylococcus pyogenes aureus* was the commonest organism found, then streptococcus, then *Bacillus coli communis*; rarer organisms found were *B. typhosus* and pneumococcus. There were two forms of perinephric abscess—primary and secondary. The primary form might follow injury, though more frequently it developed after an acute fever, tonsillitis, boils, etc. The secondary form followed suppuration in adjacent organs, the infection travelling by direct extension or via the lymphatics. A feature of the complaint was, in some cases, the length of the incubation period. In 4 cases it was within one week, a further 5 cases within two weeks, a further 7 cases within three weeks, a further 11 cases within eight weeks—a total of 27 cases within eight weeks. In 7 further cases the duration was from two to sixteen months. An interesting group was the 7 cases in which the symptoms had persisted from periods varying from three months to sixteen months. He suggested that the chronic perinephritis was there all the time, but that some exciting cause—for example, further debilitation of health or injury—determined the onset of suppuration.

Usually the onset was insidious, and in the great majority of cases the onset symptom was a dull ache in the upper part of the ileo-costal space—that is, just beneath the last rib and lateral to the erector spinae muscle. Occasionally the onset was acute and then an onset rigor often occurred. Except in the acute variety, rigors were not common. Usually there was irregular fever, often mistaken for typhoid. Chronic ache, often described as a growing pain, which became gradually worse, and particularly at nights, was a constant feature. There was tenderness over the loin, with restricted extension, but free flexion of the thigh. The chronic pain increased on movement, respiration, coughing, and sneezing. With regard to urinary symptoms, in 12 cases there were neither urinary symptoms nor pus in the urine: in 11 there were urinary symptoms together with pus in the urine; in 6 there were urinary symptoms without pus; in one case there was pus without any urinary symptoms. Urinary frequency was the common complaint made, though 4 cases in the series had renal colic. The symptom of thigh flexion was common in this disease; it was due to the perinephritic inflammation spreading to the psoas muscle. The temperature was rarely normal. In the early stage there was tenderness at the angle formed by the last rib and the outer border of the erector spinae. There was rigidity of the flank muscles, and sometimes a mass. In 36 cases out of the 43 there was a swelling present, nearly always mentioned as large. This confirmed the statement that perinephric abscess is not usually diagnosed until a swelling appears. In only 8 cases was the diagnosis made when no swelling was palpable. In the later stages night-sweats, emaciation, and a swinging temperature were almost constant features. The abscess might rupture into the kidney, ureter, colon, and vagina; it might track to pelvis or iliac fossa, or rupture into the pleura, lung, or bronchus. With regard to treatment, Mr. Willan said that an exploratory needle should not be inserted unless preparations were complete for immediate operation. Early drainage of the abscess was essential. It was interesting to compare a primary perinephric abscess with osteomyelitis. In each case the commonest organism was the *Staphylococcus pyogenes*, and in each the patient was in debilitated health. Osteomyelitis was usually associated with a slight injury. He suggested that the same conditions obtained in both diseases—namely, debilitated health, staphylococcus in the blood stream, and an injury of minor degree.

TREATMENT OF DIABETES.

AT a meeting of the Section of Medicine of the Royal Academy of Medicine in Ireland, held on November 9th, with the President, Dr. T. G. MOORHEAD, in the chair, a discussion took place on the modern treatment of diabetes.

The PRESIDENT, in his opening remarks, gave a summary of the researches which led Banting and his co-workers to the discovery of insulin, and laid stress on the fact that the discovery was not, as many thought, a lucky fluke, but was the result of painstaking and laborious scientific investigations. He then referred to the economic aspect of insulin, with particular reference to the extra stress thrown on hospital finances, and pointed out that the community was now called upon to decide whether it was or was not willing to provide the funds necessary to maintain the life of diabetics. Even should insulin become much cheaper than it was at present, it would still remain an expensive commodity from the point of view of the hospital patient. He expressed the opinion that, assuming voluntary subscribers refused to help, the State, if it was willing to pay for the cure of venereal disease, which admittedly was for the most part acquired by non-social practices, should also help in providing the cost of the remedy, insulin, for a disease which was a misfortune and not a fault. He discussed the question as to whether it was advisable to undertake a course of insulin treatment without blood sugar estimations, and said that while such estimations were always desirable, nevertheless in some cases where special difficulty existed in carrying them out a course of insulin might be cautiously commenced without them. Regarding the giving of insulin dissolved in alcohol by the mouth, some experiments carried out on patients in his wards in hospital showed that insulin so given had no effect on blood sugar. Further experiments were, however, in progress. Dr. Moorhead referred in conclusion to the importance of combined dietetic and insulin treatment.

Dr. R. H. MICKS briefly discussed laboratory technique and its clinical application. He sketched the principles to be borne in mind when interpreting the results of blood and urine analysis, and showed charts from patients with renal glycosuria and mild diabetes. His series of 230 blood sugar estimations made during the last six months illustrated some points in the insulin treatment of diabetes. The twelve patients of Dr. Moorhead who received doses of insulin controlled by blood sugar estimations were summarized. In all there was improvement, but the immediate effect the drug had on the blood sugar varied considerably. There were no alarming results of hypoglycaemia, but in two cases slight hypoglycaemic symptoms occurred. In one the symptoms persisted for several hours and did not disappear coincidently with the raising of the blood sugar above normal. He showed charts illustrating

the change in the blood sugar produced by insulin injection, emphasizing the importance of giving the dose at meal times. No evidence of permanent cure had been noted, but the response to the drug became more evident as treatment proceeded. In some cases insulin treatment had no advantage over dietetic treatment; in others it was vitally necessary. He urged that the preparation should be provided free for poor patients.

Dr. G. BEWLEY, referring to blood sugar estimations, said that he himself had little difficulty in accurately measuring the amount of blood required, but that as a point of technique he would like to know whether the length of time taken in bringing the solution to the boil, and the length of time of boiling, made any difference in the results. While diabetic coma was best treated by insulin, it was important to remember that some cases did very well under complete starvation. Among the various patients whose blood sugar he had estimated the most interesting was one in whom he found a blood sugar as high as 0.35 per cent. without sugar appearing in the urine. It was stated that in progressive diabetes the threshold value was often raised, but he thought the one he now reported—0.35 per cent.—was the highest yet recorded.

Dr. W. FEARON remarked that the metabolism of glucose was quantitatively the most important biochemical reaction in the animal body, since the greater part of the normal diet was composed of carbolic drates, and the carbolic drates were absorbed chiefly in the form of glucose. The glucose concentration of normal blood was regulated by the rate of its absorption from the alimentary canal, by the renal threshold mechanism, by the glycogen condensation mechanism, and, lastly, by the rate of its removal by the tissues. The characteristic effects of insulin were manifested in the last of these operations. The administration of insulin caused glucose to leave the circulating blood. It was not rapidly burnt away or condensed to glycogen, and Macleod considered its disappearance to be due to its absorption by the tissues, which developed a "glucose vacuum." Insulin appeared to have no special action on glucose in simple solutions, the presence of the tissue cells being an essential factor. If insulin were administered alone it sooner or later exhausted the glucose reserves of the organism, the blood sugar fell, with characteristic results. When the blood sugar value reached about 0.075 per cent. in the human subject the patient experienced extreme hunger, fatigue, and vasomotor discomfort. Insulin, whatever its ultimate value might be in the prolonged treatment of diabetes, was a specific for coma arising from ketosis, since by its action on glucose it supplied the missing factor necessary for the complete combustion of the fatty acids.

Dr. H. F. MOORE said that it was clear that diabetes was a deficiency disease in relation to the supply of insulin from the islands of Langerhans. All treatment should be so planned that the blood sugar be kept within normal limits. The fasting blood sugar should not be greater than about 0.1 per cent., and the blood sugar during digestion should not rise to a point greater than 0.16 per cent. This meant that the diet upon which the patient lived must be rather exact, and to this dietary the dosage of insulin should be carefully correlated. It was probable that the majority of diabetics did not require insulin; with dietetic treatment alone it was possible to abolish the glycosuria and to bring the blood sugar to normal without actual starvation, by keeping the patient on a so-called "basal" diet with a low content of carbohydrate and fat. This method succeeded in accomplishing the desired result within two to six days, depending on the severity of the case. Only the unusually severe cases required fasting to get rid of hyperglycaemia, and these generally could not, without hyperglycaemia, use a diet upon which they could exist unless they got insulin. The final diet in all cases should be sufficient for the patient's requirements in calories and it should be properly balanced in its proportion of carbohydrate and fat in order to avoid acidosis. The disadvantages of insulin treatment were: (1) Subcutaneous injections for long periods of time; (2) the cost; (3) the frequency of slight local reactions, undoubtedly due to protein impurities, which should become less frequent as the methods of preparation of insulin improved; and (4) the danger of hypoglycaemic reactions. The methods of avoiding and treating the latter were discussed. Dietary regulation was even more necessary with insulin than without it. Hyperglycaemia should not be permitted and the degree of glycaemia during digestion and fasting should be kept as nearly as possible within normal limits. It could not be too strongly emphasized that patients under insulin treatment should not be allowed to have glycosuria, for this meant as a rule hyperglycaemia, and, therefore, wearing out of whatever insulin function was left in the patient's islands. Patients receiving insulin should not be fattened. It was better to keep them a few pounds under weight.

Dr. G. E. NESBITT, referring to blood sugar estimations in connexion with the use of insulin, agreed that if blood sugar estimations were not possible any doctor who took a reasonable amount of care could use insulin successfully. It seemed fairly easy to judge the amount of insulin which should be given to a patient, if one went by the diet which the patient was able to take. The intake and output could be calculated, and if it was remembered that one unit of insulin burned two grams of sugar the calculation was easy.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

THE Medico-Chirurgical Society of Edinburgh met for its first meeting of the hundred and third session on November 7th, with the President, Sir ROBERT PHILIP, in the chair. The officials for the current session were elected, the new president being Sir David Wallace, K.B.E., C.M.G., F.R.C.S.Edin.

Professor EDWIN BRAMWELL showed a boy, aged 11, suffering from Thomsen's disease. He thought this was the first case of the kind which had been demonstrated to the Society. It was a rare condition and he had only met four cases in twenty-three years. Professor Bramwell demonstrated the striking characteristics of the disease: (1) difficulty in muscular relaxation until the movement had been frequently repeated; (2) hypertrophy of groups of muscles. The boy had a rounded face due to enlargement of the masseters and showed beautifully the difficulty in opening the eyes after closing them firmly. The calf and shoulder muscles showed definite enlargement and the relaxation spasm in the hand was well marked.

Mr. J. W. STRUTHERS brought before the Society a case he had previously exhibited—a man with a symptomless swelling in the left frontal region. In the interval the case had been operated upon. The condition before operation appeared to be a tumour growing from the membranes and invading the frontal bone. The tumour had been removed and the man was now back at full work. Lantern slides illustrated the tumour both clinically and by x rays. The hyperostosis of the frontal bone was clearly seen. The tumour was an endothelioma.

The retiring president, Sir ROBERT PHILIP, before vacating the chair delivered his valedictory address. He sketched the work overtaken by the Society, remarking on the variety and high standard attained in the papers read. He mentioned the increased membership, and that the Society had honoured itself by admitting to its "corresponding membership" ten distinguished colleagues from Europe, America, and England. Grievous losses had been sustained by the death of many distinguished ordinary members—Sir James Affleck, Dr. Ballantyne, Professor Boyd, Professor John Chiene, Sir Halliday Croom, Dr. Harry Rainy, and others. Apart from the ordinary meetings the Society had had the privilege of welcoming and listening to addresses by Professor Calmette, Professor Bordet, and Professor Pirquet. During his occupancy of the chair Sir Robert had noticed that short crisp papers were more apt to awaken discussion than did the lengthy orations. Spontaneity of discussion should be attained, and when this was followed the members got nearer the heart of the matter which was under consideration. When he joined the Society, exactly forty years ago, Henry Duncan Littlejohn occupied the chair, the vice-presidents being Sir Thomas Fraser, Dr. David Wilson, and Sir John Batty Tuke. They, and other officials of the Society, had passed away, but it was remarkable to note that almost 45 per cent. of the officials of forty years ago remained in vital connexion with the old Society.

Sir Robert Philip reminded members that it was more than a hundred years since the Society was founded, and sufficient recognition had hardly been bestowed on the first president—Andrew Duncan—who was largely instrumental in originating the Society. He was "divinely thrilled, exultingly full, as quick well waters that come of the heart of earth." He succeeded James Gregory in the chair of the practice of medicine in the University, was twice president of the Royal College of Physicians of Edinburgh, being recalled to occupy the chair in 1824, when 80 years of age, as a tribute to his inexhaustible, untiring devotion to the interest of others. His interests were wide. He was a keen botanist, loved his garden and proposed the establishment of a public experimental garden. He was singularly responsive to the delicate vibrations of art and his story of his discovery of Henry Raeburn—afterwards Sir Henry Raeburn—and the life-long devotion to the great artist reads like a romance. Raeburn's last game of golf was played when 67 years of age—five weeks before his death—with Andrew Duncan, who was in his 80th year. In conclusion, Sir Robert said:

"At times it is good to fall back intimately on the past. It is good for us to recall the men who sat in those places before us. It is good to be reminded of what sort they were. Our Society comes of noble ancestry. Its creator and first president was a man of fine fibre, clear brain and large heart. He had a big conception of the possibilities of the Society. A man who lectured on the practice of medicine during fifty-three consecutive sessions and, at the same time, swept the human horizon as he did, so that his bust in the Royal Public Dispensary is justly inscribed with the words 'Benefactor of his species,' and one who played golf and climbed Arthur's Seat when well over 80, was made of the right stuff. His reading of life and of the uses of a medical society affords abundant food for reflection. . . . The baton, which two years ago was received by me at the hands of one distinguished surgeon, I now pass to another, with the certainty that he will wield it wisely and well. Sicut patribus, sit Deus nobis!"

A cordial vote of thanks was proposed by Sir DAVID WALLACE and seconded by Professor WILLIAM RUSSELL.

Mr. HENRY WADE gave a lantern demonstration entitled "The clinical significance of the form and capacity of the renal pelvis." Certain anatomical points about the normal renal pelvis were illustrated by casts made of fusible metal. He then referred to his own *post-mortem* findings while he was an assistant pathologist at the Royal Infirmary about fifteen years ago. *X*-ray photos were thrown on the screen showing the capacity of the renal pelvis by means of pyelography and the technique of the procedure was discussed. Clinical examples of the following conditions of congenital abnormalities were demonstrated by *x*-ray photos—namely, single functioning kidney, horse-shoe kidney, congenital cystic kidney, pelvic kidney, and unilateral fused kidney. Pathological states of the kidney were also demonstrated, such as hydronephrosis, pyelitis, suppurative pyelonephritis, tuberculous disease, renal calculi, and tumours.

The demonstration was discussed by the PRESIDENT; Dr. CHALMERS WATSON, who referred to the value of such methods in medical cases showing bacteruria; Sir HAROLD STILES, who hoped every facility would be given Mr. Wade for pursuing this line of study; and Dr. W. A. ALEXANDER, who quoted his findings of congenital abnormalities in a series of 500 consecutive necropsies.

PSORIASIS.

At a meeting of the Cardiff Medical Society held on November 13th, with the President, Mr. WILLIAM MARTIN, in the chair, Dr. J. BEATTY read a paper on psoriasis.

Dr. Beatty said that as the disease was familiar he did not deal with its symptoms and course beyond emphasizing the extremely small size of the initial lesion, the fact that the spots grew at different rates, and that new spots might occur while others were fading; it occasionally occurred at the site of wounds or superposed on other skin diseases where there was a breach of surface, and it persisted indefinitely, recurrence being the rule. Psoriasis was related to ill health, for the dictum that it was a disease of the healthy applied to about one-third only of the cases; it was not contagious, though very rare cases of apparent infection had occurred. He described the microscopical anatomy as first distinguished clearly by Munro and elaborated by Haslund, showing that the primary lesion was a cell infiltration into the rete and accumulation beneath the corneous layer—a microscopic abscess; later, parakeratosis, or retention of nuclei, occurred here and there in the corneous layer with collections of shrunken leucocytes, and acanthosis, or proliferation of the rete cells, was abundant, while in the corium there was widening of the vessels and accumulation of leucocytes round them.

The pathology of psoriasis was unknown, investigators attributing it variously to a parasite, to a fault of metabolism or the nervous system, or to one of the great systemic infections, tuberculosis or syphilis. Schamberg and his collaborators attempted to find a parasite, using complement fixation methods and culture media of all varieties, with and without the patient's serum, extract of the scales, etc., but they were unable to isolate anything but the ordinary skin bacteria. Dark ground illumination showed what appeared to be a bacillus, but Ketron later brought evidence to prove that this was a fibrin form. Inoculations on animals were equally unsuccessful. They also investigated the metabolism in psoriasis, using the amounts of nitrogen ingested and excreted as an index, and were able to prove that nitrogen retention occurred, but Tidy later showed that this occurred also in exfoliative dermatitis. It was now believed that this retention was due only indirectly to the disease and depended on the desquamation. While the evidence for a parasitic origin was negative, there were no features which seemed to point to any other hypothesis which could not be equally well explained if the existence of a parasite were assumed. The microscopical anatomy and the spread of the spots by peripheral extension were strongly in favour of this, but it was necessary to predicate a predisposition—namely, a suitable soil.

Treatment had only a temporary effect. Special diets did not appear to have any value. Locally, after removal of the scales, the tars, mercurials, and the chrysarobin group (including pyrogallol and resorcin) were the applications most used. Mercurials were the least and chrysarobin the most effective. Any application should be rubbed in. Chrysarobin was not an antiseptic, tested against staphylococci, its action being that of a reducing agent, but its special value compared with other reducing agents depended on its stability, so that it was at full strength when applied, on its ready oxidation by proteins and their derivatives, and on the fact that sodium chrysophanate or other product of oxidation was quite innocuous. Sunlight, the electric arc, and *x* rays were all useful in special cases.

The internal treatment was marked by the variety of the drugs used and the uncertainty of their action. These fell into six groups: (1) the arsenic group (including antimony); (2) the heavy metal group—mercury and manganese; (3) the iodides and thyroid; (4) carbolic acid, tar, and the volatile oils; (5) alkalis and salicylates; (6) vaccines and auto- and hetero-serums. Arsenic was the most reliable and was usually successful in first attacks; it should be pushed to tolerance. Hypodermically or intravenously enesol seemed best, salvarsan being generally unsuccessful. Mercury and manganese were given hypodermically. The iodides were the next drugs to use if arsenic failed, thyroid being held in reserve. Salicylates had been given in large doses intravenously and salicin by the mouth. Vaccines, usually of staphylococci but often of other bacteria, might be effective.

Discussing these drugs, Dr. Beatty pointed out that no physical or chemical relation between them could be discovered, and that they had to be administered in full doses. He believed that a pharmacological relation existed, for they were all tissue poisons—even serums, since symptoms resembling anaphylactic poisoning could be produced by first treating serums with physical agents. He strongly advocated the view that the really active body was some product of protein breakdown, and believed that this was true also of the treatment of syphilis, where unrelated substances like arsenic, antimony, bismuth, mercury, and even iron might be effective. The ineffectiveness of arsenobenzol on spirochaetes *in vitro* might be explained in this way. The treatment of both psoriasis and syphilis seemed really a chronic poisoning, and the cure only indirectly due to the drugs used.

Professor A. W. Sheen suggested that perhaps the cutaneous phenomena of psoriasis might be regarded as the local manifestation of some general disease comparable to the skin eruptions which occurred in systemic diseases like tubercle and syphilis. He also drew attention to the fact that psoriasis occasionally followed the distribution of a cutaneous nerve.

Mr. H. G. Cook discussed the seasonal variations of psoriasis, and said that the disease was liable to exacerbations in the spring and autumn, the reason for this being obscure. Dr. R. Prichard thought that heredity played a definite part in some cases and cited instances. He described the successful treatment of a case by means of arsenic.

Dr. Gordon Greaves suggested that psoriasis might perhaps be akin to conditions of anaphylaxis, such as asthma and hay fever. Dr. C. W. Shepherd, discussing the condition of nitrogen hunger, asked whether it was due to the scaling or was a peculiarity of psoriasis. Dr. H. A. Haig asked as to the value of *x*-ray treatment and inquired whether cases had been treated by Finsen light.

Tests for Syphilis.

Dr. W. Parry Morgan gave a demonstration of the Wassermann reaction and a flocculation test for syphilis. He showed how the antigen was prepared from the heart extract, and tubes showing flocculation with this and syphilitic serum. He then showed the parts played by complement and haemolytic serum in haemolysis, and how this haemolysis is used in the Wassermann reaction. Examples of serum giving strong positive, weak positive, and negative reactions were shown.

HYDROTHERAPY.

A meeting of the London Association of the Medical Women's Federation was held at the Elizabeth Garrett Anderson Hospital on November 13th, with Miss M. Chadburn, the President, in the chair.

Dr. Laura Veale read a paper on spa treatment at Harrogate. She spoke of the stimulus given to hydrotherapy by the discovery of radium and the presence of radio-activity in water, and of the further impetus which was the outcome of the war. Hydrotherapy was now definitely established as a factor to be reckoned with in practical therapeutics. Dr. Veale described the special features of Harrogate as a spa, its geographical position and the large number of its springs. She went on to discuss the composition and special value of the various springs, explaining which were suitable for internal and which for external application, and deprecated the habit of sending patients to a spa without confiding them to the care of a physician resident there. Mineral waters of any potency could not safely be taken at any time and in any quantity, and the results of an attempt on the part of the patient to treat himself often ended disastrously. As to diet, in English spas the medical practitioner had not the same advantages as on the Continent, of being able to superintend the patient's diet. The Harrogate Medical Society had again and again attempted to solve the problem. The difficulty was not so much with the hotel managers or with the patients, as with the patients' friends, who refused to be content with simple diet. Patients came to Harrogate suffering from many widely different complaints, as the spa, being supplied with springs containing both sulphur and iron water, was equipped with facilities for all sorts of baths—sulphur, peat, needle, electric, paraffin, wax, and whirlpool baths among others, and also for special treatments, such as the Ems system for throat and nose affections and the Plombières treatment for colitis.

Dr. M. E. H. Morris read a paper on the waters of Bath. She said that since the previous speaker had dealt mainly with the clinical side of spa treatment she would refer briefly to the physical and physiological aspect of the subject. Important discoveries had been made in recent years as to the composition of the waters of Bath by the late Sir William Ramsay; and at the present time research work was being carried on at the Mineral Water Hospital which would result in increasing the knowledge of the physiological action of the waters. A municipal laboratory had also been established in connexion with the Royal United Hospital, where pathological specimens were examined for the medical practitioners in Bath and the surrounding districts. The Bath waters were always classified as simple thermal waters until 12 volumes of helium in 10,000 volumes of the gases escaping from the King's Well were found by Lord Rayleigh. In 1910 Ramsay, working with Soddy, found that helium was one of the products of the change of radium, and in the same year Strutt discovered radium in the Bath waters. Experimenters were unanimous in holding that the effect of radio-activity was an increased activity of all the processes of nutrition and metabolism. There was increased oxidation as shown by a rise in the percentage of all the urinary solids other than the chlorides. Also, there was multiplication of the red blood cells, and increased activity of the digestive ferments. The growth of bacteria was found to be retarded, if not inhibited, by radium emanations. This was well shown at Bath by the marked success in the treatment of gonorrhoeal arthritis. Also it was found that radium emanations stimulated the elimination of toxins, as shown by increased toxicity of the sweat. An exacerbation of symptoms was a common incident of spa treatment, and if the reaction was not severe, it was usually welcomed as a sign of progress. Such reactions usually set in after a week or two of treatment, and were soon followed by marked improvement. The conditions deriving most benefit from treatment at Bath were simple chronic arthritis, chronic muscular rheumatism, progressive polyarthritis, infantile arthritis, and gonorrhoeal arthritis. Dr. Morris had had many patients suffering from subinvolution of the uterus and chronic pelvic inflammatory conditions who had derived great benefit from the vaginal douches; while the Plombières irrigations of the large bowel had cured many cases and relieved others of colitis, constipation, and post-operative adhesions. Treatment at Bath was contra-indicated for patients suffering from tuberculous conditions and also for those suffering from contracted granular kidney. The baths had been much improved in the last ten years. Various different kinds of bath had been installed, and an entirely new electro- and physio-therapeutic department had been constructed.

An interesting discussion followed the papers.

MEDICO-LEGAL PRACTICE.

A paper on pitfalls of medico-legal practice was read by Sir John Collie to the members of the Harveian Society at the Town Hall, Paddington, on November 15th. Members of the Medico-Legal Society attended and took part in the discussion which ensued.

Sir John Collie advised medical men in medico-legal cases to conduct examinations in their own consulting rooms—the effect on the examinee was enormous. The solicitor's office was the last place for such an examination. He himself had refused to examine a case at a solicitor's office, and the point was taken to the Court of Appeal, who decided in his favour. He further advised medical men never to be in a hurry in examining a medico-legal case. A thorough examination should be made, and if the examinee asked, "What do you think?" the doctor should reply, "What I think I will tell the insurance company," otherwise he might be providing a rod in pickle for himself in the witness-box. Next the speaker advised doctors to "take notes at the time and preserve them." If a doctor as much as referred to notes when giving evidence he might be asked. "Were those notes taken at the time?" If they were not he would be told to put the notes in his pocket and to give evidence to the best of his memory. Sir John Collie said he himself had been frequently challenged upon typewritten notes which he had said were typewritten immediately after an examination and in some cases he had been allowed to refer to them. The only safe course, however, was to take notes at the time and have them in the witness-box. Again, in writing a report a doctor must not allow sympathy to have any say in the matter whatever. They were all afraid of the law of libel, but if a doctor was to do his duty in making

report he must express himself quite frankly, fairly, and fully. Certain spoken and written words were privileged. A judge, a witness, a proof of evidence, a medical report, were privileged. It was true such a report must not be malicious, but otherwise it could be as severe as the doctor liked to make it. A doctor could say of people that they were fraudulent or were malingerers, but it would not be libellous if it were given to the right person, provided it was the doctor's honest opinion. In the witness-box a doctor must never get angry. Counsel might be very provoking, and intentionally so, but the expert witness must keep calm. If counsel were rude the witness must remain civil and polite; it went to his credit. Then, when deciding whether a medico-legal case was a neurasthenic or a malingerer, "never be in a hurry to diagnose a malingerer." Sir John Collie remembered the visitor who asked of a hospital attendant how the patients in a ward were progressing, the reply being, "Oh, very well indeed, except for the malingerer in the corner; he died last night!"

Mr. Travers Humphreys spoke of his experiences in criminal cases, and said doctors did not give evidence as partisans but as experts, and he was delighted to observe that the medical witness was the only expert who could be relied on to give trustworthy evidence. Lawyers were very grateful to those members of the medical profession who practised as expert witnesses for the assistance they gave impartially to both sides.

Sir William Willcox spoke of the remarkable facility with which he had observed members of the Bar pick up medical points, and added that he himself always welcomed thorough cross-examination when he appeared in the witness-box.

Other speakers were Sir James Dundas-Grant, and Messrs. H. Tanner, Ernest Clarke, L. Jacobs, and T. Simpson Pedler.

IMMOBILITY OF PLANTS.

At a meeting of the Royal Medico-Chirurgical Society of Glasgow held on November 2nd, with the President, Dr. A. Maitland Ramsay, in the chair, an address was delivered by Professor F. O. Bower, Sc.D., F.R.S., on the immobility of the plant body.

Professor Bower said: The fact that ordinary plants are fixed in the soil and therefore stationary is so familiar that we pay little attention to it, and often remain quite blind to the far-reaching consequences which it entails. Since Darwin's book on the movements of plants was published it has become common knowledge that plants do move, though under restrictions by their encysting walls. The protoplasts of an adult tissue can only move within their restricting prison, and the plant as a whole is immobile. The rooted position is, however, clearly effective for purposes of photosynthetic nutrition. The immobile plant can nourish itself and provide food also for the rest of the organic world; but its immobility imposes restrictions which have affected the whole course of plant evolution. So long as water is the medium in which plants live, and the gametes are motile in it, and especially if there are means of directing their movements to the right spot, fertilization is possible for algae. In land plants, however, difficulties at once arise. By peculiar specialization mosses and ferns are still able to subsist on land, using "casual water" as the necessary medium for fertilization, but are thus necessarily restricted to habitats where "casual water" is at all events sometimes available. On the other hand, the fully fledged land plant has to do without it. This is the reason for all those wonderful pollination mechanisms which have become the playground of botanical science. Mechanical ejection, air and water transit, and animal agency play their part; and pollination, the necessary step to fertilization, is thus made possible for the immobile plant. When the seed is ripened a fresh difficulty arises in the spread of the seeds so that each shall have its chance. Again ejection, wind, water, and animal agency are called in, with curiously parallel though distinct results. There is yet another disability following from the immobile habit. The plant is the passive victim of predatory animals, being unable to escape by speed or cunning. Pasture grasses and clover and any fodder plants are the natural prey of the grazing animal. Their sole resource is to restore as quickly as possible the parts that have been lost. Some plants develop poisonous or offensive juices, while others are no doubt protected from attacks by snails by the sharp crystals called raphides which are embedded in mucilage; this swells as the tissues are gnawed, the cells rupture, and the sharp needles penetrate the delicate mouth of the marauder. It has been shown by experiment that even hungry snails avoid plants so protected. It thus appears that the whole evolution of plants has been overshadowed by the early sacrifice of mobility. Truly for them "C'est le premier pas qui coûte." Encystment, while it secures protection, raises also many difficulties, and the further evolution of the plant has largely consisted in living them down. The wonder of it is that plants have succeeded as well as they have done. Necessity with them has indeed been the mother of invention.

TUMOURS IN SEA FISHES.

A pathological meeting of the Liverpool Medical Institution was held on November 8th, the President, Dr. Hill Abram, in the chair. After the exhibition and discussion of specimens, Dr. J. Johnstone, of the Fisheries Laboratory at Liverpool University, gave a description of a number of cases of tumours found in marine fishes, mainly cod, skates and rays, turbot and halibut. A few of these tumours were identified as cutaneous papillomas, cystadenoma of the ovary, angioma, and myxo-fibroma. Some were simple capsulated fibromas. The majority, however, were sarcomas. These were found in all regions of the body, but always in the same tissues. Dr. Johnstone said that the tumours originated in the subdermal connective tissue and spread along the fibrous septa that cross the body and give origin to the systemic muscles. They spread by very active infiltrative growth, penetrating between the muscle bundles and even between individual muscle fibres. The latter atrophy and die over large areas. The sarcomata begin as fibrous growths and rapidly become highly cellular. Many were typically melanotic. There was difficulty in accounting for the multiple growths (or metastases) observed by transport of tumour cells in the blood vessels, and it was more likely that the lymph channels were involved. The tumours led to great emaciation and finally death of the fish. There seemed to be no evidence of the origin of these growths by local irritative agencies, nor could traumatic injuries be made possible causes. No instance of an undoubted carcinomatous tumour was found, though these were recorded by Gaylord and Marsh in domesticated trout and salmon. Some interesting questions were suggested by a study of malignant tumours in truly wild fish, and there was much need for extensive collection and investigation of all such conditions. The paper was discussed by Professors Beattie and E. Glynn, and by Drs. Wadsworth and Coope.

TABES DORSALIS.

At a meeting of the West Kent Medico-Chirurgical Society, held at the Miller General Hospital, Greenwich, on November 9th, with the President, Dr. E. G. Annis, in the chair, Dr. Hildred Carlill gave an address on tabes dorsalis. His remarks were based on the case notes of 153 personally observed patients, and were illustrated by a large number of photographs taken by him. The importance of a pupil examination of all patients was emphasized, and the conditions other than syphilis in which the Argyll Robertson pupil might occur were mentioned. Dr. Carlill gave an account of the early symptoms of which a patient might complain, and also those which he commonly would admit provided he was asked about them. After discussing the clinical and pathological examination, Dr. Carlill urged that the condition might often be diagnosed prior to abolition of tendon jerks. Whereas the tests in serum and cerebro-spinal fluid were always positive at some period of the disease, they became negative, not only in connexion with treatment in certain cases, but also in process of time. Thus it was not always possible to obtain pathological confirmation of a clinical diagnosis of tabes dorsalis, but it was always possible in general paralysis. Examples were given of the association of tabes dorsalis with other syphilitic conditions, such as basal meningitis, focal vascular lesions, or gumma, and also with non-syphilitic diseases such as hysteria, lead palsy, alcoholic insanity, and epidemic encephalitis. Drs. Arthur Davies, Quinn, Garnett, Comber, White, and others joined in the discussion.

Reviews.

A SYSTEM OF SURGERY.

The appearance of the second edition of the *System of Surgery*[1] by Choyce and Beattie was postponed owing to the war, but any disappointment caused by the delay is more than compensated by the care with which the volume has been prepared. Though the text is the work of various authors a high level of uniformity has been attained. All the articles are practical and well illustrated. There are some 150 new illustrations, including 50 new plates. All the previous contributors have not only revised, but in many cases rewritten, their articles, and the aid of several new writers has been enlisted. Thus the article on orthopaedic surgery has been rewritten by Mr. W. H. Trethowan, that on fractures by Mr. Hey Groves, that on *x*-ray diagnosis by Mr. Magnus Redding, that on tetanus by Colonel West, that on the ear, nose, and throat by Mr. Norman Patterson, and that on syphilis by Colonel Harrison. The recent advances in war surgery on vascular injuries, haemorrhage, fractures, infective wounds, and gangrene are included in the text, and gunshot wounds are only noticed when they have a bearing on civil surgery.

Volume I deals with: Surgical bacteriology (Dreyer), its therapeutic application (Eyre), inflammation (Beattie and Maynard Smith), suppuration (Lenthal Cheatle), ulceration (Pannett), gangrene (Nitch), wounds (Choyce), burns and scalds (Woodward), trauma (Russell Howard), toxaemia, septicaemia, pyaemia (Martin), tumours (Raymond Johnson), blood and cerebro-spinal fluid (Beattie), *x*-ray diagnosis (Redding); anaesthesia (Bloomfield, Gwynne Williams, and McGavin); tuberculosis (Beattie); syphilis (Harrison); venereal disease other than syphilis (Leedham-Green); tropical diseases (Daniels); glanders (Rock Carling); actinomycosis (Choyce); tetanus (West); hydrophobia (Calmette); anthrax (Philip Turner); diseases caused by animal parasites (Madden).

It is difficult to particularize in a work of such all-round excellence, but the articles which attract particular attention are those on gangrene, which is well classified and the treatment up to date; on tumours, which is remarkable for its good series of illustrations; and on *x*-ray diagnosis.

Volume II deals with: The breast (Sampson Handley); the spleen (Gordon Watson); malformations of the face, lip, and palate (Nitch); the tongue (Clayton Greene); salivary glands and floor of mouth (Back); the oesophagus (Rigby); stomach and duodenum (Sherren); intestines (Miles); appendix and peritoneum (Percy Sargent); hernia (McGavin); rectum and anal canal (Clogg); liver, gall bladder, and pancreas (Grey Turner); urinary tract (Thomson-Walker); genital tract (Russell Howard).

Diseases of the breast are very thoroughly dealt with by Mr. Sampson Handley, who includes an account of the spread of carcinoma by permeation, and of Paget's disease of the nipple, and a full discussion of operative methods and of the value of *x* rays and radium. He states that local recurrence is rare and considers the means which should be used to prevent it. Mr. Clayton Greene expresses a general pessimism on the subject of cancer of the tongue. He considers the ideal is to remove the tongue and glands at the same time, but if the two-stage operation is to be performed it is better to remove the glands first. He recommends the use of diathermy and removing the tongue right down to the hyoid, and quotes Quick's work on the treatment by radium. The arguments for and against the operation of choice on cleft palate and hare-lip are clearly put forth and well balanced. Mr. Nitch's conclusion is that Lagenbeck's operation performed between the ages of 18 months and 2 years gives the best results in the majority of cases, and that coexisting hare-lip should be operated upon at the age of 3 months. Mr. Sherren's article on gastric ulcer is specially clear and concise. Small chronic ulcers are treated by gastro-enterostomy and in "free" ulcers the cautery may be used in addition, but where the ulcer is indurated, adherent, or suspicious of carcinoma partial gastrectomy should be carried out. Mr. Clogg's article on the rectum and anal canal is a valuable contribution, in which the operative measures on carcinoma of the rectum are well summarized. Mr. Grey Turner in his article on gall stones holds the balance between cholecystostomy and cholecystectomy, and enumerates the several conditions under which each may be employed.

Volume III deals with the following subjects: Female genital tract (Victor Bonney); cardio-vascular system (Rock Carling); lymphatic system (Dobson); the neck (Edmunds); nose and accessory sinuses (Barwell); pharynx, naso-pharynx, larynx, and ear (Patterson); direct examination of the lower air passages (StClair Thomson); lungs and pleura (Morriston Davies); nerves (Sherren); scalp, skull, brain, spine, and spinal cord (Trotter); jaw (Fitzwilliams); skin and subcutaneous tissues (Legg); muscles, fasciae, and tendons (Rock Carling); bursae (Telford); diseases of bones and joints (Choyce); fractures (Hey Groves); orthopaedic surgery (Trethowan). Mr. Trotter's articles on the brain and spinal cord are a pleasure to read, and constitute a fine translation of the physiological and anatomical principles of the central nervous system into practical treatment. Mr. Trethowan has a vigorous article on orthopaedic surgery, and though, judging from the amount of small print in the text, his space is cramped, his style is not. He ends with a note on manipulative surgery, with the motto "when in doubt move," as applied to joints. Mr. Hey Groves in his article on fractures lays special stress on the subject of treatment, and it is pleasing to see new and up-to-date illustrations of splints, and the *coup de grâce* given to those old ones which have been handed down in textbooks from time immemorial. Mr. Choyce is at his best on diseases of the bones and joints, and his clear concise rendering of this subject is a model of information to the inquiring student. The principles of plastic surgery are included in Mr. Legg's article on the skin and subcutaneous tissues.

The editors express a modest hope that this work "may be regarded as a satisfactory example of the teaching of British surgery." It is more than satisfactory, and as a standard textbook on the surgery of to-day it has few rivals and no superior.

[1] *A System of Surgery.* In three Volumes. Edited by C. C. Choyce, C.M.G., C.B.E., B.Sc., M.D., F.R.C.S. Pathological Editor, J. Martin Beattie, M.A., M.D., C.M. Second edition. London and New York: Cassell and Co., Ltd. 1923. (Med. 8vo. Vol. i, pp. xxiii + 1013; 245 figures, 77 plates. Vol. ii, pp. xv + 1057; 336 figures, 30 plates. Vol. iii. pp. xv + 1176; 329 figures, 41 plates. £6 net the set.)

CLINICAL ELECTRO-CARDIOGRAPHY.

The practice of electro-cardiography is becoming sufficiently common to justify a book of the character of Dr. Willius's *Clinical Electrocardiography*.[2] In any case those who are more especially interested in heart disease find it essential to be able to understand the records obtained from the string galvanometer. The author has given us a book which, whatever its defects, will prove of considerable assistance to practitioners. A short concise description of the electro-cardiograph and the method of obtaining records is preceded by a brief account of the physiological considerations. The remainder deals with the various arrhythmias, their classification and recognition, and also with the prognostic significance of certain well defined deviations from the normal.

Dr. Willius has collected a large amount of valuable material dealing with this phase of electro-cardiography. He groups the deviations into those with T wave negativity, those with spread of the Q.R.S. complex, and those with a combination of the two. His figures indicate unhesitatingly that abnormal electro-cardiographs of this grade, other things being equal, carry with them a graver prognosis than when the electro-cardiograph is normal. He refers to 155 cases of angina and gives the electro-cardiographs of 46 cases. There is no specific deviation found to be characteristic of angina, but the average prognosis is graver when the electro-cardiograph is definitely abnormal.

Here and there the illustrative records are open to criticism. In fact in a few, such as Figs. 58, 76, and others, the interpretation is faulty. In some it is open to

[2] *Clinical Electrocardiography.* By Frederick A. Willius, B.S., M.D., M.S. in Medicine. Section on Clinical Electrocardiography, The Mayo Clinic, Rochester, Minnesota, and The Mayo Foundation, University of Minnesota. London and Philadelphia: W. B. Saunders Company. 1922. (Med. 8vo, pp. 188; 185 figures. 25s. net.)

question. On the whole, however, the illustrations are a helpful and valuable adjunct to the text, and the bibliography should prove most useful.

APPARATUS FOR THE IMPOTENT.

DR. GABRIEL BIDOU is a civil engineer who has devised and manufactured and patented various mechanical devices for the treatment of deformity, and others to enable the disabled to employ to the best advantage such powers as may remain to them. We have already noticed two small books by Dr. Bidou on instrumental orthopaedics (1919) and on artificial muscular action (1921). His new book[3] is more pretentious, judging from the numerous illustrations. M. Bidou's appliances are ingenious, well designed, and well made, and the descriptions of them and of the principles on which they are devised should be useful to surgeons who wish to learn something of orthopaedic mechanism. As in his previous works, Dr. Bidou places great trust in so-called artificial muscles—that is to say, in springs. It is scarcely necessary to reaffirm the objection that springs cannot take the place of muscles except in so far as they antagonize existing muscles and act when the latter relax. Besides the apparatus referred to, Dr. Bidou manufactures artificial arms and legs (patented) and machines for mechano-therapeutics and correction of deformity.

Dr. Babinski recommends this work in a short preface, and refers to the good results which have followed the application of Dr. Bidou's instruments to his patients in the Hôpital de la Pitié in Paris.

THE PHYSICAL CHEMISTRY OF THE CELL.

THE fifth edition of Professor HÖBER'S treatise on the physical chemistry of cells and tissues[4] marks the ever deeper penetration of this branch of natural science into the fundamental problems of physiology. When the book first appeared chemists and physicists were only just mobilizing to the attack on the nature of the colloidal state and its peculiar energy relationships, the theory of electrolytic dissociation had but recently come into general currency, and the whole question of the energetics of chemical reactions was only slowly taking shape under the formidable title of thermodynamics. These deep movements of physical science had barely touched the fringes of physiological thought, yet there were those—and the author must be accounted among the first—who saw that these indeed were the lines of inquiry which were to lead to the intimate investigation of the living cell. To-day we are learning to look upon the cell not as a structure having localized affinities for certain dyes, but rather as a colloido-crystalloidal complex in a continuous state of disequilibrium in which the phenomena of assimilation, growth, movement, reproduction, and irritability are but the expressions of the physico-chemical reactions of this amazing complex. An explanation of the action of minute amounts of drugs, of hormones, and of enzymes, must be sought in the same field, and already the pathologist is turning to physico-chemical methods in the study of the disordered functions of the cell.

Such is the progress that Professor Höber is privileged to record in the pages of this new edition. He brings together the familiar with much scattered and unrecognized work, collecting them into a connected argument which gains much from the considered criticism of the author. He moves shrewdly and with a confidence which inspires courage in the reader through the wealth of material he has brought together. He seems to scent out the seeds of truth in this field so full of contradictions.

In the edition now before us the sequence of the discussion has been considerably modified, and it is obvious that new material has not merely been sewn into the old argument but has contributed to the remodelling of the whole. The phenomena of osmosis and permeability and their physiological significance, whose discussion had previously been scattered through the book, have in this edition been collected and extended to comprise the whole of the second part of the volume. This chapter will be welcomed as a valuable contribution to the interpretation of the perplexing difficulties of the physical chemistry of permeability.

A second volume is promised, and while it is unfortunate that its scope is not indicated in the first half it will be awaited with interest. If there be a serious physiological library that does not already contain Professor Höber's book the omission may now very suitably be repaired.

CLINICAL PERIODONTIA (PYORRHOEA).

Clinical Periodontia,[5] by PAUL R. STILLMAN and JOHN OPPIE MCCALL, instructors in periodontia in the Columbia University, New York, is "a study of the causes and pathology of periodontal disease and a consideration of its treatment." The authors' main thesis is that "traumatic occlusion" is the primary factor in periodontal disease, or, as it is generally called, "pyorrhoea." We may say at once we do not think they have established their case. They define traumatic occlusion as "an abnormal occlusal stress which is capable of producing or has produced an injury to the periodontium." So far as we can gather it is most obvious in the crowded arches of "mouth-breathers," but the authors find it in practically every mouth. Should any tooth be found by digital examination to move, even slightly, on closure of the jaws, the presence of traumatic occlusion is held to be established. The loosening is attributed to injury to pericemental membrane and alveolar crest by impact in abnormal position of cusp against cusp, and the bacterial invasion is held to be secondary to the trauma. The remedy suggested lies primarily in orthodontic treatment or in grinding the cusps to remove abnormal contact. Secondary, but by no means unimportant, treatment lies in mouth hygiene and general treatment.

As we have said, we cannot follow the authors in their opinion as to the injury done by "traumatic occlusion"; the teeth are designed to take strain and stress in a large range of positions and directions, and periodontal disease (or "pyorrhoea") is as common in people whose articulation is within the limits of normal as in those with demonstrably abnormal articulation. None the less the book is worth the attention of all thoughtful dentists. The chapter on radiographic appearances contains an excellent study of the minutiae of pathological conditions revealed by the *x* rays; the microphotographs of early gum affections through the periodontal sulcus are perhaps unique, and none of the clinical appearances of "pyorrhoea" from the most to the least obvious has escaped the authors, except it be the hypertrophic bone conditions. The publishers claim that this book is the first serious attempt to deal with the subject of periodontoclasia (pyorrhoea alveolaris) in a really comprehensive way, and however this may be the book is a valuable addition to the study of "pyorrhoea alveolaris," or, as the authors prefer, "periodontoclasia."

PALAEOPATHOLOGY.

The Antiquity of Disease,[6] a volume in the University of Chicago Science Series, is attractively written and well got up. It is by Dr. ROY L. MOODIE, Associate Professor of Anatomy in the University of Illinois and editor of the late Sir Marc Armand Ruffer's *Studies in the Palaeopathology of Egypt*, which was reviewed in our columns at the time (BRITISH MEDICAL JOURNAL, 1921, ii, 991). Palaeopathology deals with the evidences of disease and injury in animals and plants before the records of medical history—namely, up to the time of Hippocrates. The small volume before us is mainly devoted to the vertebrata in this connexion. A brief sketch, starting from Esper of Erlangen in 1774, is given of the history of the

[3] *Nouvelle Méthode d'Appareillage des Impotents.* Par Dr. Gabriel Bidou, Membre de la Société des Ingénieurs civils de France. Préface de J. Babinski, Membre de l'Académie de Médecine. Paris: Les Presses Universitaires de France. 1923. (Roy. 8vo, pp. 311; 159 figures. Fr. 25.)

[4] *Physikalische Chemie der Zelle und der Gewebe.* Von Dr. med. Rudolf Höber. Fünfte Auflage, I Hälfte. Leipzig: Wilhelm Engelmann. 1922. (Roy. 8vo, pp. xv+544; 81 figures.)

[5] *A Textbook of Clinical Periodontia.* By Paul R. Stillman, D.D.S., and John Oppie McCall, A.B., D.D.S. New York: The Macmillan Company. 1922. (Demy 8vo, pp. 240; 79 figures. 16s. net.)

[6] *The Antiquity of Disease.* By Roy L. Moodie, Associate Professor of Anatomy in the University of Illinois. Chicago, Illinois: The University of Chicago Press. 1923. (Cr. 8vo, pp. xiv + 148; frontispiece and 36 figures. 1.50 dols., post paid 1.60 dols.)

science of palaeopathology, the name introduced by the late Sir Marc Armand Ruffer.

Disease seems to have been entirely absent from the early and middle palaeozoic periods, and many groups or animals became extinct before its advent. Apart from injury the earliest form of pathological process was parasitism, preceded by mild forms of communism and commensalism; it was thus probably disease arose. The most ancient bacteria were non-pathogenic, and it appears probable that a wide distribution of bacterial disease is in geological time a comparatively recent phenomenon, going back a few million years, which in comparison with the scores, possibly hundreds, of millions of years that plants and animals are thought to have existed is a very brief time. Palaeopathology, by studying morbid processes over a great period, should help in solving present problems. The oldest known tumour of bone, a haemangioma of the vertebrae of a large dinosaur, forms the frontispiece, and there is a figure and an *x*-ray picture of the oldest known fracture, in a long-spined reptile of the Permian period.

In the chapter on disease and injury in fossil man the absence of any definite evidence of syphilis is pointed out, and the tuberculum of Carabelli is shown to be a dental anomaly found in fossil man and, though hereditary, quite independent of syphilis. Among the ancient Peruvians, who with the North American Indians and the ancient Egyptians are the only primitive peoples whose pathology has been much investigated, the occurrence of uta, a disease then and sometimes even now mistaken for syphilis, makes it difficult to decide as to the existence of the latter disease. In the interesting account of primitive surgery, which grew out of shamanism, or the efforts of the shaman, medicine man, or priest to let out evil spirits, an account of prehistoric trephining, common 10,000 years ago in the Neolithic period, rightly receives attention; it was frequently performed for headache and often more than once.

In conclusion, it may be said that this well written book is a useful introduction to this comparatively new and expanding subject.

ATOMIC STRUCTURE.

IN *The A B C of Atoms*[7] Mr. BERTRAND RUSSELL has been as successful as is perhaps possible in presenting the new theory of the constitution of the atom and all that it implies for the comprehension of the average educated person. The book is not long; the first part goes over the general ground traversed by Sir Ernest Rutherford in his presidential address to the British Association (BRITISH MEDICAL JOURNAL, September 15th, p. 474). So far the matters discussed can be more or less visualized, although Mr. Russell warns his readers that

> "Our imagination is so incurably concrete and pictorial that as soon as we depart from the language of mathematics we have to express scientific laws in a language which asserts much more than we mean to assert."

"We speak," he continues, "of an electron as if it were a little hard lump of matter, but no physicist really means to assert that it is. We speak of it as if it had a certain size, but that also is more than we really mean. It may be something more analogous to a noise, which is spread through a certain region, but with diminishing intensity as we travel away from the source of the noise. So it is possible that an electron is a certain kind of disturbance in the aether, most intense at one spot, and diminishing very rapidly in intensity as we move away from the spot. If a disturbance of this sort could be discovered which would move and change as the electron does, and have the same amount of energy as the electron has, and have periodic changes of the same frequency as those of the electron, physics could regard it is what an electron really is without contradicting anything that present-day physics means to assert."

The real trouble begins for Mr. Russell and his readers when he gets to the theory of quanta, and Bohr's application of it to the atom. There are some who can understand mathematics and some who cannot, just as some have fair hair, and some have not: it is as absurd for the mathematician to despise the non-mathematically minded as it would be for the dark man to contemn the fair because of the deficiency of pigment in his hair. Mr. Russell very nearly succeeds in avoiding mathematics altogether, presenting his grateful readers with the final conclusions the mathematicians have reached. He leaves aside almost completely the effect these theories are likely to have on chemistry, thinking, perhaps, it is a subject for the future; but as Sir Ernest Rutherford said, there can be little doubt that the next decade will see an intensified attack by physicists and chemists on this very important subject of molecular structure. Certain investigations already made favour the idea that shared electrons play a part in the electronic structure of two combined atoms.

[7] *The A B C of Atoms.* By Bertrand Russell, F.R.S. London: Kegan Paul, Trench, Trübner and Co., Ltd.; New York: E. P. Dutton and Co. 1923. (Cr. 8vo, pp. 175. 4s. 6d. net.)

THE WASSERMANN REACTION.

IF any member of the medical profession is making a hobby of collecting the different methods, modifications, and innovations of the Wassermann reaction he must secure a copy of Dr. G. RODILLON'S little book, *La Réaction de Wassermann redue Simple et Précise.*[8] Therein he will find an account of Dr. Rodillon's method, and it may even happen that amongst the methods described he may find one or more that are new to him. Dr. Rodillon's book is of modest design; he does not commence by denouncing all his predecessors, but generously does justice to nearly twenty methods older than his own. Even for his own method his claims are modest, for he declares that if serologists do not feel inclined to discard other methods for this, he will be happy if they will experiment with it as a control to them.

The other methods described in this book require no comment, for those that have merit are already well known and are described in standard textbooks. The novelty of the author's method consists in the fact that he divides the patient's serum into two parts; one part (four-tenths of the whole) is inactivated for five minutes at 56° C. and the other part is not inactivated and provides the complement. The only ingredients required for the test are the patient's serum, diluted antigen, normal saline, and sheep's red cells. His method, therefore, belongs to that group of modifications of the Wassermann reaction which dispense with either complement or amboceptor derived from other animals and employ the notoriously variable quantities of these substances present in the patient's blood.

NOTES ON BOOKS.

THE admirable little book entitled *The Health of the Runabout Child*[9] by Dr. WILLIAM PALMER LUCAS is aptly summarized by the author's phrase, "The journey from mother's lap to the school gate." It is an excellent book on the upbringing of the toddler. The chapters discuss in simple and very clear language the effect of heredity, the physical and mental standard which should be expected at each year's end, and what to beware of in the period from 2 to 6 years. The physical requirements and training of the child are expatiated upon, and a variety of good diet tables is added to the chapter on feeding. The author urges the necessity for community effort for health along the lines of prevention of disease, and quotes from Mr. Hoover: "Every child that is a delinquent in body, education, or character is a charge upon the community as a whole and a menace to the community itself." Emphasis is also laid on the mental training of the runabout child, whose psychology is briefly touched upon. "Play and work are simply attitudes of mind toward life." We strongly recommend this book to all intelligent parents and to others who also realize the responsibility of setting the feet of little children on the right path.

The second edition of *Abdominal Surgery for Nurses*,[10] by Mr. HAROLD BURROWS, will continue to be of great use to nurses who are interested in accomplishing their work intelligently and helpfully. The section dealing with shock has been rewritten and the entire book brought up to date. Simple and clear instructions and explanations are given for the guidance of the nurse in the more common abdominal operations. The aim of the author is to instruct her not only to be aware of possible complications incidental to abdominal surgery, but to explain to her the line of treatment of the surgeon.

[8] *La Réaction de Wassermann rendue Simple et Précise.* Par G. Rodillon. Paris: A. Maloine et Fils. 1923. (Cr. 8vo, pp. 160. Fr. 8.80.)

[9] *The Health of the Runabout Child.* By William Palmer Lucas, A.B., M.D., LL.D. New York: The Macmillan Co. 1923. (Cr. 8vo, pp. 225; 2 illustrations. 8s. net.)

[10] *A Manual for Nurses on Abdominal Surgery.* By Harold Burrows, C.B.E., M.B., B.S.Lond., F.R.C.S. Second edition. London: The Scientific Press, Ltd. 1923. (Cr. 8vo, pp. 144; 15 figures. 4s. net.)

The Public Schools and the Great War (1914–1919),[11] by A. H. H. M., contains a list of 362 officers in the various services, excluding the navy except the Royal Naval Division and the Marines in land operations, who received the honour of knighthood or higher distinctions. Of those 362 officers, 254 were educated at public schools, and 48 were serving in medical capacities or with the Red Cross. A list of the various schools is headed by Eton with 35 knighthoods or higher distinctions, followed by Wellington with 24, Marlborough with 17, Cheltenham with 15, Harrow with 14, Winchester with 13, and Charterhouse and Clifton each with 11. Of all the officers who served in the armies of the British Isles, an average of about 13.5 per cent. lost their lives as compared with about 10 per cent. in the ranks, but among the great public schools the percentage was in almost every instance not less than 20. This inquiry was not extended to the navy in general because boys pass into that service at an age which precludes their having been at a public school, except possibly for a very short time.

The Medical Clinics of North America is a periodical published every other month. The first number of the seventh volume is an octavo of 314 pages, and contains a series of twenty-eight papers from the Mayo Clinic and the Mayo Foundation for Medical Education and Research. Among the papers are four dealing with insulin and its use in the treatment of diabetes. The periodical is published by the W. B. Saunders Company of London at the price of 55s. a volume in paper or 75s. bound.

Under the title of *Pour Passer le Temps*, by "The Bugler," Dr. ALEX. FRASER, of Burnage, Manchester, has collected a number of verses and short notes which he wrote in 1917 and 1918 to amuse his friends in the 57th General Hospital, B.E.F., at Boulogne, and later at Musso, near Marseilles. The verses illustrate the fine spirit of camaraderie that existed in the hospital, and should recall pleasant memories to readers who were upon its staff. The little volume is well produced, and is published by Messrs. Sherratt and Hughes, Manchester, at the price of 2s. 6d.

Milton Agonistes: A Metaphysical Criticism,[12] by Mr. E. H. VISIAK, is the work of a devoted student and admirer of the author of *Paradise Lost*. He seeks to show that whereas Shakespeare's individuality is in abeyance in his writings, Milton entered the dream domain of his genius as a self-conscious artist, with the result that his characters became himself, not he his characters, and his personality is plainly imprinted upon his works.

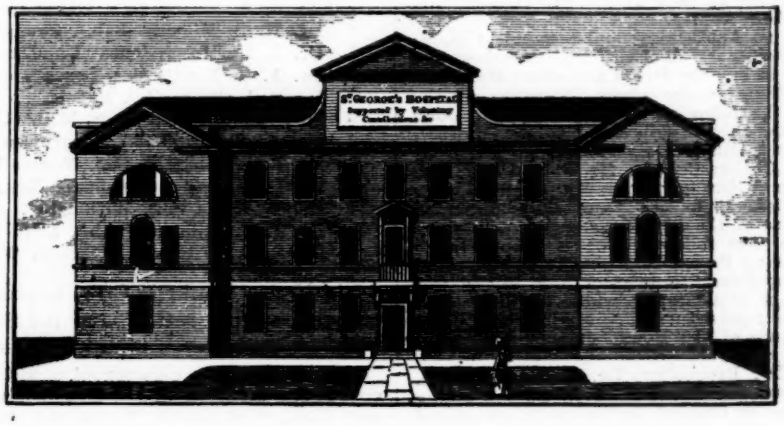
[11] *Public Schools and the Great War (1914–1919)*. By A. H. H. M. London: Edward Stanford, Ltd. 1923. (Demy 8vo, pp. 20. 1s. 6d.)

[12] *Milton Agonistes: A Metaphysical Criticism*. By E. H. Visiak. London: A. M. Philpot, Ltd. 1923. (Cr. 8vo, pp. 104. 3s. 6d. net.)

Nova et Vetera.

A CONTRIBUTION TO THE HISTORY OF ST. GEORGE'S HOSPITAL.

THE foundation of St. George's Hospital, as is well known, originated in a difference of opinion among the Governors of the Westminster Hospital in 1733. That institution had outgrown the building in York Street, occupied since 1720, and in 1733 it became necessary to find larger premises. The majority of the Governors decided to purchase a house in Thomas Street as an addition, but this was contested by a small but influential minority, which included the consulting physician, Sir Richard Mead, and the three principal surgeons, one of whom was William Cheselden, who contended that Lanesborough House, then standing near Hyde Park Corner, was "better adapted for a hospital than any other available site on account of the strength of the building and of the airiness of the situation."



Both Sir Richard Mead and Sir Hans Sloane took a personal interest in the new institution, and it was opened with 30 beds—soon increased to 60—on January 1st, 1734. An interesting document, which appears to have been hitherto unknown to the present authorities of St. George's, has recently been discovered, and is now in the Wellcome Historical Medical Museum. It consists of a folio sheet of three printed pages with a fine woodcut headpiece and initial, and throws an interesting light on the foundation of the hospital. It reads as follows:

An ACCOUNT of the Occasion and Manner of Erecting the Hospital at Lanesborough House, near Hyde-Park-Corner. Published by Order of the General Board of GOVERNOURS there, Wednesday, February the 6th, 1733.

Several well-disposed Persons having long observed that there was no Hospital within the Liberty of Westminster, for the Relief of the many poor, sick and lame Objects that offerd; and that such an Hospital was absolutely necessary in so large and populous a City; those in London being by no Means sufficient: They therefore agreed to set on Foot a Subscription for an Infirmary there, to relieve such poor, sick and lame Persons as should appear to the Subscribers to be proper Objects of Charity.

Accordingly in the Year 1719 a Subscription was opened, and a House was taken and fitted up in Petty France,* which being found to be too small, they in the Year 1724, removed to Chapel-Street, where they have ever since continued. In both these Places great Numbers have been cured, as appears from their printed Accounts, under the Care, and by the Charitable Assistance of Dr. Alexander Stuart, Physician to Her Majesty, Dr. George Lewis Teiffer, Physician to His Majesty's Houshold, and Dr. William Wafey, as Physicians; and Ambrose Dickins, and Claudius Amyand, Esqs. Serjeant Surgeons to Her Majesty, and William Cheselden, Esq; Surgeon to Her Majesty, as principal Surgeons, and Mr. James Wilkie as Surgeon in Ordinary. These Gentlemen were all subscribers to this Charity; and to their concurring Labours the Society have always hitherto most thankfully acknowledged the Preservation of the Lives of their Patients, under God, to be owing.

About two Years since the Stock of the Society encreasing beyond Expectation, and their House being still too small, as well as old and ruinous, it became necessary to remove; and therefore Advertisments were publish'd by Order of the Board for several Weeks together, enquiring after a large and substantial Building, in an airy Situation, within the City, or Liberty of Westminster.

At Length some Houses of Mr. Green's in and about Castle-Lane, in the lower Part of Westminster, and Lanesborough House, in the higher Part of it, being propos'd to the general Board, a Question arose which should be preferr'd. The Majority were for the Former; and they accordingly voted that Mr. Green's Houses were convenient for them, and that Lanesborough House was not so; and they appointed a Committee finally to agree with Mr. Green. The Minority, tho' over ruled, were not convinced.

Among the Minority were all the above-named Physicians and Surgeons, together with several who had been concerned in the Charity from its first Establishment, and some who had laid the Foundation of it several Years before, besides many others who had been very active and useful Instruments in carrying it on since. All these (whose Subscriptions at Lady-Day last, with those of their Friends, brought in by them, have been computed to amount to above the Half of the Whole) were of Opinion that there was no Place about this Town more proper for their Purpose than Lanesborough House.

An Hospital there, on Account of its Neighbourhood, could give no offence to any one; the Building was large and strong, and many of the Rooms were so contriv'd, as if they had been built for the Uses to which they were now to be apply'd; it was near enough to the Town to be supply'd with all the Necessaries that would be wanting, so near that the Governours might attend without Inconveniency, and yet far enough for the Patients to have the Benefit of a Country Air, which, in the general Opinion of the Physicians, would be more effectual than Physick in the Cure

* Now called York Street, Westminster.

of many Distempers, especially such as mostly affect the Poor who live in close and confin'd Places within these great Cities.

For these Reasons they resolved to take Lanesborough House, and if possible to perswade the Majority to join with them. But finding at a subsequent general Board, that their Brethren were absolutely determin'd against it, and that it was in vain to hope for their Concurrence: They, the Minority, agreed that they ought not to let slip so advantageous an Opportunity of removing, and therefore they compleated their Agreement at £60 a Year, resolving to carry on the same Charity there. Thereupon the Physicians and Surgeons acquainted the Board that Lanesborough House was taken; that they were resolved to carry their Charity and Attendance thither; that they could not attend both, but they would attend in Chapel-Street 'till other Physicians and Surgeons should be provided; and if at any Time their Assistance should be wanted, they would be ready to attend when desir'd.

Thus began the Separation which has prov'd of great Service to the Charity; for now, by the Zeal and Emulation of both Societies, they will probably be able to entertain above four Times the Number of Patients they have hitherto done. Immediately after this, the Society in Chapel-Street chose other Physicians and Surgeons, and the Gentlemen at Lanesborough House set themselves vigorously to work to lay the Foundation of their new Hospital. For that Purpose they met almost every Evening, and procured not only the By-Laws of all the Hospitals about the Town, but also the By-Laws of several Hospitals in foreign Parts, out of which to collect such Rules and Orders as should best suit their Occasions; and having well weighed and consider'd the Undertaking, they form'd themselves into a regular Society on Friday the 19th of October, 1733.

Since that Time they have collected and digested a regular Body of Laws for the Government of themselves, their Servants, and their Patients, extracted for the most Part from the several By-Laws that have been laid before them. And as they had Reason to apprehend that an Inconveniency might arise by permiting small Subscribers to be Governours; no Man is qualify'd to be a Govournour there that does not contribute £5 a Year; and even then he must be proposed a Fortnight before he can be chosen, which is at last done by a Ballot. Such is their Caution in the Choice of their Governours, of whom nevertheless they have already about 150, and from whom, as well as from several Ladies of Quality and Distinction, they have received very generous and beneficient Contributions.

The Hospital is now fitted up and made much more compleat than could have been expected out of a Dwelling House: It will at present contain 60 Patients; but as the Boundaries of their Ground will admit of new Buildings for several spacious and airy Wards, large enough to lodge some Hundreds of Patients better and more commodiously than any other Hospital about this Town; they propose to erect such Buildings as soon as their Circumstances shall enable them.

They began to receive Patients on New Years Day last, and several In and Out Patients were then received, and they continue so to do every Wednesday Morning until Ten of the Clock: They will admit as many In Patients as their House will contain, and Out Patients according to their Ability.

They have in their House an Apothecary, and a compleat Shop; and all the Physicians, Surgeons, Apothecaries, Chemists and Druggists, are a Committee to buy the Drugs and other Materials, for making the Medicines there; under whose Inspection all the Medicines are made: And the following Apothecaries, viz., John Warren, and Daniel Graham, Esqs. Apothecaries to His Majesty, John Allen, Esq; Apothecary to His Majesty's Houshold, Mr. Isaac Rand, Botany Professor of Chelsea-College, Mr. John Clark, Mr. Andrew Mitchel, Mr. Thomas Graham, and Mr. James Fraser attend by Rotation as Visitors, to see them duly dispensed according to the Prescriptions of the Physicians.

Among other Regulations, the following one is proper to be here inserted, which is, That no Person belonging to this Hospital presumes, upon Pain of Expulsion, to take of any In, or Out Patient, any Fee, Reward, or Gratification whatever, directly or indirectly, for any Services received from this Hospital, either while they are under the Care of the House, or after they shall be discharged.

Dr. Stuart, Dr. Wafey, Dr. Broxholme, Dr. Burton, and Dr. Ross, who are all Governours, have consented to be the acting Physicians there, without Fee or Reward; the Patients are visited by them 3 Times a Week, they all meet there every Saturday together, and they attend by Rotation every Wednesday Morning at 9 to examine the Patients that are recommended. Mr. Serjeants Dickins and Amyand, and Mr. Cheselden, have consented to be principal Surgeons, and Mr. Wilkie and Mr. Middleton are the Surgeons in Ordinary: These Gentlemen are also Governours, and serve without Fee or Reward. Several eminent Divines have agreed to attend the Patients daily, for their Spiritual Comfort and Instruction; and two of the Governours are Weekly appointed, who attend every Day as Visitors to hear Complaints, and to see the Orders of the Board punctually obeyed.

As the Business of this Hospital hath been too much for the Governours to manage in a Body, they have appointed several Committees, who all Act with that Zeal, Integrity, and Application as become Men who have only in View the Honour and Service of Almighty God, the publick Happiness and Prosperity of their Country, and the Support and Relief of their fellow Creatures in Distress.

N.B.—The great Numbers of Objects that daily offer, are sufficient to shew the Usefulness and Necessity of Hospitals of this Kind: And tho' Guy's Hospital, a noble Endowment, hath been lately erected, yet more are still visibly wanted: And 'tis hoped the Example of these Gentlemen may be a Means to induce other well-disposed Persons to make this Kind of Charity more diffusive, and extend it to other Parts of the Kingdom.

P.S.—As the Physicians attend every Wednesday Morning punctually at Nine, the Contributors to this Charity are desired to direct the Patients to be there at that Hour, the Board having made an Order that none shall be received after Ten.

The staff of St. George's Hospital has always been peculiarly rich in the possession of men who have achieved high positions in both medicine and surgery. The names of John Hunter, Matthew Baillie, William Heberden, Thomas Young, William Cheselden, Benjamin Brodie, and Prescott Hewett are but a few of those who have added lustre to its roll.

C. J. S. THOMPSON, M.B.E.

THE GENERAL ELECTION.

THE following is a list of medical candidates at the General Election and of the constituencies in which they are offering themselves so far as we are at present able to ascertain. An asterisk indicates that the candidate represented the constituency in the Parliament just dissolved.

At the present stage the list cannot be complete, and we shall be glad to receive additions and corrections.

Dr. H. B. Bates (U.), Newton, Lancs.
Dr. Ethel Bentham (Lab.), Islington East.
*Sir George A. Berry (U.), Scottish Universities.
*Dr. W. A. Chapple (L.), Dumfries.
Dr. R. Dunstan (Lab.), Ladywood, Birmingham.
*Dr. W. E. Elliot (U.), Lanark.
Dr. M. I. Finucane (L.), Westminster.
*Dr. F. E. Fremantle (U.) St. Albans.
Dr. O. Gleeson (Lab.), Portsmouth South.
Dr. L. Haden Guest (Lab.), Southwark North.
Mr. Somerville Hastings (Lab.), Reading.
Dr. G. B. Hillman (U.), Normanton, Yorkshire.
*Dr. L. G. S. Molloy (U.), Blackpool.
*Dr. J. E. Molson (U.), Gainsborough.
Dr. H. B. Morgan (Lab.), Camberwell North-West.
Dr. J. H. Morris-Jones (L.), Denbigh.
Dr. A. G. Newell (L.), South Tottenham.
Dr. R. L. Ridge (L.), Enfield.
*Sir Sydney Russell-Wells, M.D. (U.), University of London.
*Dr. A. Salter (Lab.), Bermondsey West.
Dr. R. W. Simpson (L.), Newcastle-upon-Tyne North.
Dr. G. E. Spero (L.), Stoke Newington.
*Dr. T. Watts (U.), Withington.
*Dr. J. H. Williams (Lab.), Llanelly.
Dr. R. M. Wilson (L.), Saffron Walden.

Sir Henry Craik, K.C.B., is standing for re-election as one of the representatives of the Scottish Universities.

THE appeal for a quarter of a million pounds to defray the cost of the erection of the new science wings of the University College of South Wales and Monmouthshire at Cardiff has now brought in £156,000. Several important donations were announced on November 20th. Lord Glanely gave £10,000; several sums, to spread over seven years, were promised, including £28,000 from Sir David R. Llewellyn, £7,000 from Sir Henry Gethin Lewis, and a like amount from Mr. H. Seymour Berry.

THE United States Naval Medical Corps now numbers 751 commissioned officers, and it is stated by the *Journal of the American Medical Association* that even with the reduction in strength and appropriations for the navy at present there is a shortage of forty-nine officers below the Government allowance. The United States Army Medical Corps is also stated to be at present thirty-six medical officers short of its quota.

THE fourth international Congress of the History of Medicine will be held at Geneva from July 20th to 25th, 1925, under the presidency of Dr. C. G. Cumston. Further information can be obtained from the general secretary, Dr. A. de Peyer, 20, Rue du Général Dufour, Geneva.

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SATURDAY, NOVEMBER 24TH, 1923.

THE DECISION OF THE PANEL CONFERENCE.

Last week we announced briefly the result of the Special Conference of Representatives of Local Medical and Panel Committees held on November 14th to consider the Minister of Health's revised offer. This week we publish in the Supplement a full report of the discussions that led up to the unanimous decision to accept the Minister's offer, including his alternative proposal for a special Court of Inquiry. An important, though subsidiary, decision was the acceptance on behalf of rural practitioners of mileage grants for 1924 of £250,000 for England and Wales and £46,000 for Scotland. The Conference, in view of these decisions, authorized the Insurance Acts Committee to deal with the withdrawal of resignations collectively, and arrangements (of which every insurance practitioner has been, or will be, notified this week) are being made to carry out this instruction with the least possible delay. Each practitioner should already have received from the head office of the British Medical Association a form of withdrawal of resignation in respect of each panel list on which his name appears.

The decision of the Panel Conference has been accepted without reservation by the Minister of Health, and the Insurance Acts Committee will now devote its energies to the effective presentation of the case of the medical practitioner for an adequate capitation fee. The profession, by the decision of the Conference, has pledged itself to accept the finding of the Court of Inquiry, and it will become the duty of the British Medical Association to use all its influence with members of Parliament to ensure the passage of the bill in which the Court's award is to be embodied. Owing to the dissolution of Parliament and the impending general election it will not now be possible for the Minister to fulfil his promise to go to Parliament for the necessary legislative sanction before the close of this year. Sir William Joynson-Hicks has undertaken to set up the Court of Inquiry at the earliest possible moment, and it may be expected that the sittings of the Court will begin immediately after its appointment, and that as soon as it has concluded its inquiry its decision on the amount of the capitation fee will be made known. The fee awarded will have effect as from January 1st, 1924. In the unexpected circumstances which have arisen owing to the sudden dissolution of Parliament it would seem that insurance practitioners will have to begin the new year without a statutory assurance as to the amount of the capitation fee for 1924. But whatever the complexion of the new Parliament it seems unlikely that it will reject the recommendation of the Court, the appointment of which has been formally reported to the House of Commons.

Although the capitation fee for 1924 is as yet an unknown quantity, it is not too soon, we think, to express satisfaction with the course of events. The last two months have been a period of great anxiety for a large section of the medical profession, calling for self-restraint and courage on the part of the rank and file, and for wisdom and leadership in those who represent them. The terms of the Minister's final offer justified the unanimous refusal of his first offer. Although complete satisfaction has not been obtained, the solidarity of the profession and the statesmanship of its leaders secured from the Minister explicit assurances on certain matters of vital importance to the future of medical practice under the Insurance Acts; the decision of last week's Conference has done much to consolidate these gains. The Minister's new offer had to be accepted or rejected as a whole with one or other of the alternatives in regard to remuneration, and it was imperative that a decision should be reached both upon the whole offer, and as between (*a*) a guaranteed fee of 8s. 6d. for five years, or (*b*) a separate and immediate inquiry into the appropriate capitation fee for 1924. Upon the larger issue representatives of insurance practitioners had a clear lead from their executive body—a lead endorsed by their constituents; as between the two alternatives, (*a*) and (*b*), the Committee's recommendation was less positive. Having had the realities of the situation put plainly before it the Conference rose to the occasion, and its choice has, we believe, reflected the feeling of the great bulk of those on whose behalf it voted.

The insurance crisis may not be over yet, but in accomplishing so much in such difficult circumstances the medical profession has done well. Two matters seem, in particular, to call for congratulation. In choosing a Court of Inquiry the Conference took the logical course and showed confidence in the strength and justice of its case for adequate remuneration. This decision to abide by the award of an impartial arbitration, coupled with the remarkable unanimity shown by 95 per cent. of resignations from the panel, has not been without its effect upon the Ministry of Health, on public opinion, and doubtless also on the Approved Society officials. The public has understood the determination of the profession to be free to give, unhampered, the service for which it exists, and has applauded the outcome of the Conference. This is no small gain. Moreover, professional solidarity led to a new offer by the Minister, and it gave practitioners confidence in themselves and in each other; the decision to submit the money question to arbitration has done the profession good in the eyes of the public. These two advantages may fairly be claimed as due in large measure to the organization, both central and local, of the British Medical Association. The machinery has stood the test, and the united action of insurance practitioners testifies to the trust reposed in the Association by the general body of the profession. This trust must be continued, for the award of the Court of Inquiry will probably be for one year only.

BIRTH INJURIES OF THE CHILD.

Evidence is accumulating that injuries to the infant during parturition are commoner than has hitherto been supposed. Dr. Ehrenfest of St. Louis has recently[1] made the categorical assertion that "in at least 40 per cent. of all autopsies, properly performed on all stillborn infants and those dying within the first few days after birth, intracranial traumatic lesions of some sort are discovered." Yet the returns of the cause of death in current statistics

[1] *Birth Injuries of the Child.* By Hugo Ehrenfest, M.D., F.A.C.S., St. Louis, Mo. Gynaecological and Obstetrical Monographs. New York and London: D. Appleton and Co. 1922.

in America (as elsewhere) would lead to the conclusion that birth injury was very rare. There can be little doubt where the truth really lies. In the first place, very few yet realize the meaning of the asphyxias seen in the newborn, and even when the child recovers and grows perhaps to present the signs of Little's disease the trouble is as often as not ascribed to the asphyxia, whereas neither is primary but both secondary. It will be some time before knowledge of the very common happening of intracranial haemorrhages becomes really widely known, though such a paper as that by Dr. H. C. Cameron, published in this JOURNAL on March 3rd (p. 363), will help to draw greater attention to the subject. In the second place a man will hesitate very naturally before he ascribes the death of his patient's baby to injury. The very word has an ominous sound. A fatal injury seems to imply some fault on the part of the obstetrician. Yet practically every form and variety of birth injury has been discovered after an entirely spontaneous birth. This would appear at first sight to be an ample shield, but as a defence it is more in the nature of a smoke screen than of armour plate. For instance, there seems little doubt that injury to the child is very much commoner in an " assisted " birth than in one which is entirely spontaneous.

Dr. Ehrenfest considers that better knowledge of these injuries may in the future considerably modify obstetrical practice, and serve to curb the enthusiasm of those who practise forceps extractions, versions, and so forth with more zeal for the mother's comfort than the baby's welfare. In this respect the giving of large doses of pituitrin, causing the rapid descent of the head through a birth canal not yet sufficiently relaxed, or the giving of hyoscine, subsequently necessitating the use of forceps, may have to be reconsidered. Be that as it may, the time has come when we must realize that intracranial injury is the most important single cause of early death—either of stillbirth or of death soon after birth. We have recently in this country been made aware of this by the masterly report[2] of Dr. Eardley Holland to the Ministry of Health. He showed that more foetuses were killed by the complications of labour than died during pregnancy from maternal or placental disease. Only 16 per cent. of 300 foetuses were syphilitic, whilst of 167 fresh foetuses in no less than 48 per cent. tearing of the dural septa and cerebral haemorrhage had occurred. Dr. Ehrenfest deals at length with injuries of the head and neck, and, recognizing that no one obstetrician could possibly have a large enough experience of all varieties of birth injury to write a complete monograph upon them, he has drawn very largely on the literature.

Fractures of the cranial bones are usually produced by the promontory of the sacrum and hence affect the posterior of the two parietal bones. It is important to note that they may occur in unassisted labours, and Ehrenfest quotes a case of Hartmann's where a child was born just as the latter was about to apply forceps; it had a depressed fracture of the left frontal bone; subsequently it was ascertained that all of the mother's preceding six children had been born with cranial injuries. " One child, 6 years old, still showed a deep spoon-shaped depression over the left parietal bone." On the other hand, out of 25 cases of depression published in 1913 by Gfroerer and Hofmeier, 24 were breech extractions, mostly after versions—that is to say, were not spontaneous births. If there are no signs of an intracranial injury these cases may be left alone, but it should be understood that " no signs " means " no signs after a most exhaustive clinical examination." If there are signs of haemorrhage within the skull the elevation of the fracture alone, whether by open operation or by means of such dangerous screws as Baumm's and some others, is not sufficient. " Kuestner employed Baumm's instrument," said to be " so constructed that an injury to the dura is impossible; the child died four days later; the dura had actually been perforated by the tip of the instrument; a large haematoma, responsible for the death, was however not found at the hole through the dura, but underneath the tentorium." Elevation of the depression by squeezing of the child's head between the knees, and so forth, is even more open to objection.

Dr. Ehrenfest refers to the classical paper of Seitz (1907) on the symptomatology of brain haemorrhages in the newborn, and to the paper of Beneke (1910) on tears of the tentorium cerebelli. He describes Beneke's *post-mortem* technique, whereby it came about that he was able to detect these dural lacerations, and goes on to give Beneke's and Pott's description of the nature and causation of these injuries. It is interesting to note that they were described first by Cruveilhier, and later by Virchow in 1850, and had been neglected for sixty years. The immediate cause of these tears is mechanical. The haemorrhagic diathesis seems to have been given too much importance as an etiological factor in these cases, though there is no doubt that such an entity exists and is sometimes operative. The mechanism described by Kundrat and Seitz (overlapping of the parietal and tearing of the veins entering the superior longitudinal sinus) accounts for but few of the cases. Beneke has shown the exact mechanism of the common tentorial lacerations—how the dural septa counteract the effect of lateral compression, and how severe or sudden compression may cause a stress too great for the falx to withstand when it tears the attached tentorium. These results have been confirmed by later workers, and incidentally the mechanics of the condition have been well studied and described by Eardley Holland in the monograph already mentioned, though here we failed to find reference to previous workers in this field. Benthin and then Seitz claimed that ill advised efforts to save the perineum when the head is forcibly pressed against the pubes may produce tentorial injuries. Dr. Ehrenfest remarks that in the numerous detailed records of severer brain injuries it is common to find that pituitrin has been administered, and believes that we have here cause and effect. The symptomatology of intracranial injury presents an interesting problem, but one most difficult to interpret. As a rule, newborn infants with haemorrhage are not easy to resuscitate and often have respiratory difficulties from bulbar embarrassment, especially in infratentorial haemorrhages. The infants are restless, cry almost incessantly, and often refuse to suckle; it has, indeed, been noted that the sucking reflex is commonly absent. They are pallid, may have convulsions, and sometimes the fontanelle bulges noticeably. The differential diagnosis of supra- (hemispheral) and infra-tentorial lesions is not easy. The treatment of the condition is still *sub judice*. Lumbar puncture is probably the most useful method at once for diagnosis and treatment, unless a haemorrhage can be localized with some show of accuracy to the surface of a hemisphere. It is very doubtful whether operation can ever hold out much hope for the serious haemorrhages in the posterior fossa. Injection of whole blood is worth trying.

[2] Reports on Public Health and Medical Subjects. No. 7. 1922. H.M. Stationery Office.

Injuries to the vertebral column have also to be considered; fracture of the cervical spine, usually at the level of the sixth vertebra, is the most usual spinal injury. Extension of the foetal spine is fraught with more danger than flexion, and it appears probable that the Veit-Smellie manœuvre is not without danger of vertebral injury. Facial paralysis, injuries of the face and eye, injuries of the neck and sterno-mastoid muscle, have also to be reckoned with, and Dr. Ehrenfest has dealt very ably with birth palsy—a subject which has excited the interest and controversial powers of so many orthopaedic surgeons. He separates the wheat from the chaff, and his summary of the subject is the best with which we are acquainted, though rather too much stress is laid on compression of the brachial plexus by the clavicle.

A pioneer task has been accomplished with skill, with tact, and with judgement. The subject of intranatal injury is one destined to loom very much larger than has been the case in the past, and its importance will compel acquaintance with its details. The symptomatology, the diagnosis, and the treatment of intracranial haemorrhage of the newborn is a comparatively new field, where much of great value to humanity remains to be reaped.

SANITARY MISSION TO SAMOA.

DR. P. A. BUXTON and Mr. G. W. HOPKINS sailed on November 15th by the Panama route for Samoa, where they are to inaugurate preventive measures against the prevalent filarial diseases on behalf of the London School of Tropical Medicine. The expedition has been sent at the suggestion of the High Commissioner of New Zealand, and it is anticipated that the personnel of the party will be enlarged in New Zealand by the inclusion of one or more undergraduate students from the local medical schools. When the New Zealand authority took over the Samoan Islands under mandate from Germany certain appropriations were made, and out of these a small medical service was organized. The health conditions in the islands have, however, proved to be very bad, and have become a source of much anxiety to the new Government. In 1918 the influenza epidemic carried off nearly one-third of the whole population. More recently dysentery has attained epidemic proportions, and tuberculosis is reported to be spreading with alarming rapidity. Playing a more insidious part in undermining the physique and initiative of the native Polynesians are the helminthic infections, filariasis and ankylostomiasis. The present state of matters is such that the future of the native races is imperilled, so that the development of the local natural resources may necessitate the introduction of Chinese and Indian labour, thus raising a new political problem of peculiar gravity for the Government of New Zealand. Apart from the drawback of their extremely inaccessible position, the Pacific islands present certain particularly advantageous features for the study of all the factors involved in the eradication of filarial infection. The conditions of life upon the atolls are of the simplest—although scarcely as idyllic as those vividly pictured by the reader of present-day fiction. The communities are small, numbering on many of the atolls only a few hundred. On the smaller islets the dense bush surrounding the villages resists the searching trade winds, and provides still and damp refuge for mosquitos, which are of few species although legion in numbers. Statistical surveys, which present almost insuperable difficulties in most tropical communities owing to the necessity of examining the blood at night, are here rendered easy, for the filaria of the Pacific is peculiar in that it exhibits no periodicity, and is equally prevalent in the blood by day as by night. Much of the scientific data which must necessarily form the basis of the sanitary campaign about to be instituted has already been collected by an expedition from the Tropical School which visited this region in 1921-2. It was shown that of the six species of mosquitos in Samoa *Stegomyia pseudoscutellaris* was the efficient carrier, and occurred everywhere and at all seasons. Its chief breeding places are provided by man in the heaps of coco-nut husks which accumulate from the making of copra, but the burrowings of the rhinoceros beetle and crevices left by Nature in the palms have also been implicated. According to present arrangements the mission will remain in Samoa for two years, but the chronic nature of filarial infection will necessitate the maintenance of the sanitary control in the experimental area for many more years before its influence or success is obvious. It is to be hoped that the New Zealand Government realizes the moral obligation it is assuming, and is prepared to ensure that the public-spirited initiative of the London School of Tropical Medicine in undertaking the experiment is not afterwards rendered futile. The mission is being financed from the Milner Research Fund, which is intended for the promotion of original investigations, and not to subsidize or replace local efforts in sanitation.

A MODERN MATERNITY HOME.

QUEEN MARY'S Maternity Home, for the benefit of the wives and children of men who are, or have been, serving with His Majesty's Forces, was opened temporarily at Cedar Lawn in North End Road four years ago. In July, 1922, it was moved to permanent premises, built for the purpose and charmingly situated overlooking the Whitestone Pond at the edge of Hampstead Heath. The handsome building is surrounded by a pleasant walled garden, and the wards have been planned to secure the fullest amount of sunshine and fresh air. The home accommodates 17 patients and the necessary nursing and domestic staffs; it contains two labour rooms, a nursery and an isolation room, and a well equipped laundry. The third annual report, forwarded to us by the chairman of the Committee of Management, Lady Bertha Dawkins, summarizes the first year's work in the new quarters, and gives some account of the kind of cases received. It appears that most of the patients seek admission because their domestic circumstances make it difficult or unsuitable to arrange for a confinement at home; others apply because some abnormality is anticipated; others again because they appreciate the many advantages of a confinement conducted in accordance with the best methods of midwifery practice. Cases of minor difficulty are fairly frequent, but the home does not profess to provide for patients who are likely to need major operative measures at the time of confinement, and such women are referred to an appropriate hospital. Patients are expected to contribute towards the cost of treatment according to their means, and only those whose income falls short of a prescribed limit are eligible for admission. The home contains accommodation for a few "ex-babies" belonging to women admitted for their confinements who cannot make proper provision for their little children during their absence from home. There is also an ante-natal clinic in the grounds, apart from the main building. The medical report by Dr. E. Collingwood Andrews shows that 264 patients were admitted during the year; half the mothers were primiparae. Two maternal deaths occurred, and of the babies 13 were stillborn and 3 died shortly after birth. There were 43 abnormal labours necessitating 20 obstetrical operations, of which forceps delivery accounted for half. Induction of labour was practised in four cases—twice for contracted pelvis, once for albuminuria, and once for post-maturity.

As the value of institutions of this kind is very widely recognized, some interest attaches to the financial position of the home. It appears from the balance sheet that the fund for the building amounts to something over £35,000. There is a general endowment fund of £28,274, and a special equipment fund of £1,019. The total amount entered under capital accounts is thus £64,814. From the income and expenditure account for the year ended March 31st, 1923, it appears that dividends on investments yielded £1,568, patients' payments £1,472, and pupils' payments, less lecture fees and fees returned, £313. The Home received a grant from the Ministry of Health of £1,000. Altogether the contributions received from various charitable persons towards the upkeep of beds seem to have amounted to £1,605, and of this £1,053 was allocated to the year's working, the balance of £552 being carried to reserve. It also received gifts in kind from Queen Mary's Needlework Guild estimated at £337. On the other side of the account the cost of maintenance was £3,927, and of administration, including rent and rates, £446, leaving a balance, being the excess of income over expenditure, of £1,384, or a little less than the amount received from patients' payments, which provided about a fourth of the total income.

INCOME TAX IN THE DOMINIONS.

A GOVERNMENT publication recently issued gives a digest of the income tax laws in force in the various British Dominions, Colonies, etc. This little volume[1] may be a useful book of reference for specialists in income tax work, but is hardly to be recommended for general reading. It is, however, interesting to note the manner in which certain of the Dominions have tried, and it would seem not without some success, to bring the taxation of income into closer relation with the individual's actual circumstances. This development has, in the main, proceeded along the line of giving deductions for certain expenses; for instance, in the case of the Union of South Africa the life assurance allowance was not only adopted, but extended to cover premiums paid for insurance against "sickness," while in the case of the State of Victoria allowances are made in respect of payments made to a qualified medical practitioner or any hospital, to any nurse, or to any chemist. Other deductions of general interest might be mentioned, but we have quoted the above partly because the line of recent developments in the British scheme—for example, the increased flat rate allowances for children and dependent relatives—appears to be leading to some similar forms of allowance, and partly because there is a plain and forceful argument for allowing, at any rate in the assessment of earned incomes, the deduction of medical and surgical fees and similar expenses. The argument is this: the "earner" is as much entitled to an allowance for the cost of maintaining in working order his physical or mental capacity for work as the owner of a factory is to the deduction as a working expense of the sums he spends on the repair and maintenance of his material machinery. The professional man who in the stress of work is forced to undergo medical treatment is incurring expenditure of a nature essentially similar to that incurred in taking to pieces and overhauling an overdriven motor car or lathe. We agree, of course, that the argument can easily be pushed too far; for example, we could not reasonably suggest that all expenditure incurred by a worker on rest or recreation should be allowed for in computing his income tax liability, but we consider that the argument justifies the allowance of actual medical expenditure on the Victoria model. If there were any doubt on the point a further reason could be adduced. The importance from the standpoint of the national welfare of the general health of the community is universally recognized, and it is clear that an allowance of the nature suggested would in the first place encourage those workers who do not come within the scope of the National Health Insurance to seek medical assistance promptly, and in the second place to meet the proper financial claims of the practitioner with greater alacrity and completeness, and thereby do something towards ensuring that that assistance shall be available. A somewhat curious reference to the medical profession occurs in the law in force in the Tanganyika Territory, in the form of a complete exemption from the income tax, but as that exemption is shared by all salaried and wage-earning employees and by the recipients of profits derived from farms and plantations, the favour is not one for which the medical practitioners concerned are likely to feel any special gratitude.

[1] *Income Taxes in the British Dominions.* Price 5s. net. Published by H.M. Stationery Office.

GARDEN CITY SANITATION.

DR. M. HINDHEDE of Denmark is well known for his work on diet and his advocacy of a strictly vegetarian regimen. As an expert in drains and the commercial value of excreta he is a comparative novice, but there must be a beginning to everything, and his recent excursion into the domains of sanitation is interesting. At a lecture[1] given to the Danish *Hygienisk Laegeforening* he painted a vivid picture of the smallholder, allotment owner, simple-life enthusiast, the ointment of whose happiness would be perfectly pure but for one fly—the sanitary engineer. Dr. Hindhede has recently made a tour of inspection of the garden cities of England and Germany, and the garden city of Eden near Berlin is given such high praise at the cost of the garden cities of England that, if Dr. Hindhede's judgement is sound, the inhabitants of the latter must indeed be in a sad plight. His account suggests that in the English garden city large sums are spent on the house itself, a small front garden is devoted to a "pretty-pretty" effect, and the cramped back garden is an untidy wilderness, too small to make the cultivation of vegetables worth while. The value of the land having been forced up, it does not pay the tenant to rent it for the cultivation of vegetables, and for that matter it is doubtful if the English workman—as analysed by Dr. Hindhede—appreciates vegetables, what time his stomach craves bacon and eggs for breakfast. The English sanitary engineer, having to live and to justify his existence, has, according to Dr. Hindhede, hung a heavy and costly millstone of sewers round the neck of the garden citizen, with the result that houses have to be built in twos, fours, and blocks to meet the cost of sewers, the garden city becoming more and more of a city and less and less of a garden. Though he scoured the country under the auspices of the Ministry of Health, seeking colonies where sewage was used instead of being wasted, Dr. Hindhede seems to have left our shores with the sorrowful impression that we are under the heavy thumbs of our sanitarians. His impression of Eden near Berlin was very different. This community was founded more than a score of years ago, and, the land being held by the community for the good of the community, land values are not forced up, and when a settler leaves Eden his land reverts to the settlement. The infantile death rate of Eden is only 3.1 per cent., whereas, according to Dr. Hindhede, it is 5.5 per cent. in an English garden community. Though water is laid on there are no sewers in Eden, and all the excreta and waste products are returned to the soil. He estimates the annual value of a family's excreta at about £5, and agrees with the Chinese practice by which all is returned to the soil.

[1] *Ugeskrift for Laeger.* June 21st. 1923.

SIR FREDERICK MOTT.

SIR FREDERICK MOTT finally retired from the post of pathologist to the London County Mental Hospitals and director of the laboratory at the Maudsley Hospital on October 31st. His connexion with the work of London mental hospitals began in 1895 and has continued ever since. On November 15th he was made the recipient of a very interesting presentation from those associated with him during this long period. It consisted of a Chippendale bookcase containing a complete set of the novels and poems of Mr. Thomas Hardy, and was accompanied by an album embodying a short address signed by ninety-six persons, including representatives of the medical staffs of the mental hospitals of the London County Council, of the clerical and engineering staffs of the hospitals, and of some members of the class of psychological medicine. The presentation was made at a meeting in the Council Hall by Mr. H. Keene, clerk of the Mental Hospitals Committee; Dr. Spark, the senior of the medical superintendents of the London mental hospitals, and Dr. Hubert Bond, commissioner of the Board of Control, also both spoke of the great services Sir Frederick Mott had rendered to mental pathology and medicine. Sir Frederick Mott, in acknowledging the presentation, said that although many honours had come to him he esteemed none so high as that done him by this presentation from colleagues, fellow workers, and friends. The album contained a short address in which the signatories expressed their appreciation of Sir Frederick Mott's brilliant research work, of his efforts in connexion with the establishment of the Maudsley Hospital, and of the great assistance he has afforded to workers in the field of psychological medicine. One of the members of the staff presented the following sonnet:

Who would seek Truth essays no light emprise.
Not for his feet those paths which all may tread
Of common use, not for his lips the bread
Which many break, nor for his eager eyes
Sufficeth that wan gleam from moon-lit skies
Which most call Knowledge; not for him the dead
Contentment of an oft-trod round, where led
By ancient Wisdom men grow custom-wise.

He looks afar, and sees a glimmering fire
Beckon him on, a glow of dawning light
Upon a distant peak, and through the night
He strives, above the mist, above the mire,
Strives in the dark, though footsteps flag and tire,
Till, at the day, Truth breaks upon his sight.

THE AMERICAN AND THE ENGLISH COLLEGES OF SURGEONS.

IN our issue of November 3rd (p. 835) we published an account of the Fellowship Address delivered by Sir William de Courcy Wheeler, P.R.C.S.I., on the occasion of the conferment of the honorary Fellowship of the American College of Surgeons upon himself and upon Mr. A. E. Webb-Johnson, C.B.E., D.S.O., surgeon to the Middlesex Hospital and dean of its medical school. Mr. Webb-Johnson took the opportunity of presenting to the College a specially bound copy of the volume published in 1900 for the centenary of the Royal College of Surgeons of England. In making the gift Mr. Webb-Johnson said that the volume contained the address delivered by the President, Sir William MacCormac, and a short biographical account of each of the sixty-one surgeons who had been Masters or Presidents of the College during the hundred years of its existence. The copy now presented was of special interest, for it contained an inscription showing that it was presented in 1901 by Sir William MacCormac to Mr. Stephen Paget, the only one of Sir James Paget's sons to follow a surgical career. Of the next generation of the Paget family Richard James Paget, one of the sons of the Bishop of Oxford, was the only one to choose medicine as his profession, and the volume was presented to him by Stephen Paget in 1907. Richard Paget did not continue his medical studies, and had given the book to Mr. Webb-Johnson in 1910. With these inscriptions recording the history of the copy the donor felt that it should find a resting place in some permanent institution rather than run the risk of being dispersed with the books of an individual owner on the breaking up of his library. He asked the American College of Surgeons to accept it as a token of the good fellowship which has always existed and will ever continue to exist between British and American surgeons.

THE AUSTRALASIAN MEDICAL CONGRESS.

THE President of the British Medical Association, Mr. C. P. Childe, sent the following cable on November 9th to Mr. G. A. Syme, President of the Australasian Medical Congress at Melbourne:

> "Hearty congratulations from parent body to First Australasian Medical Congress held under auspices of Association. Best wishes for successful meeting. Sir William Macewen will tell how proud we are of this renewed evidence of strength of Association in Australasia.
>
> "CHILDE, President."

ON the afternoon of Tuesday, November 27th, at 5.30 o'clock, a combined meeting of the Medical and Surgical Sections of the Royal Society of Medicine will be held in the Barnes Hall at 1, Wimpole Street, W.1, to discuss the surgical treatment of pulmonary tuberculosis. The discussion will be opened by Professor Bull of Christiania, who is making a special visit to this country for the purpose of this meeting. All members of the profession who are interested in this important subject, whether Fellows of the Society or not, are cordially invited to attend the meeting.

THE discussion on the comparative value of cocaine substitutes, arranged by the Sections of Surgery, Ophthalmology, Otology, Laryngology, Odontology, and Anaesthetics of the Royal Society of Medicine, will be held on Friday, December 7th. It will be opened at 8.30 p.m. by Dr. Patrick Watson-Williams of Bristol.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

PARLIAMENT was dissolved on November 16th.

The Capitation Fee: Court of Inquiry.

LIEUT.-COLONEL NALL, on November 15th, asked the Minister of Health whether he had received an answer to the final offer he made to the panel practitioners regarding their terms of service after January 1st, and if so what action he proposed to take. Sir W. Joynson-Hicks: Yes, sir, my offer was accepted by a unanimous resolution of the Conference of Panel Committees held yesterday, the alternative being chosen of a Court of Inquiry to investigate and make recommendations as to the capitation fee properly payable as from January 1st. I am taking steps to set up the Court as quickly as possible. I understand the resignations will be withdrawn.

Mr. Rhys Davies asked whether the Minister would state where he was going to find the money to pay the increase from 7s. 3d. to 8s. 6d. Would he consult the Approved Societies on this question, and at once call together his own Consultative Council to find out what they thought? Sir W. Joynson-Hicks: The question whether anything will have to be paid to the doctors above 7s. 3d. is a matter for the Court of Inquiry. There is no need for me to consider finding any money until the Court has arrived at a decision. I shall be

perfectly prepared to call together my Consultative Council. I have been in communication with them yesterday and to-day, and wrote them a very long letter in reply to one which they sent me this morning.

Lieut.-Colonel Pownall inquired whether the Minister would arrange that the Friendly Societies should be represented, and Sir Kingsley Wood wished to know whether it was open to any insured person to go before this Court of Inquiry and give evidence as to the character of the panel service, and to urge that far too much money had already been spent upon it. Sir W. Joynson-Hicks: There are something like fourteen million insured persons, and if they all claim the right to appear the inquiry would be impossible. The Ministry have arranged that the Approved Societies, who represent to a large extent the insured population, will have the fullest rights to appear before the Court of Inquiry and state their views.

Lieut.-Colonel Nall asked whether, in the final consideration of this question, the chief interest to be considered would be that of the insured persons. Sir W. Joynson-Hicks: Certainly. The object I have had in all these negotiations has been to get an adequate and proper medical service.

Mr. Davies asked when the Minister would be able to state the personnel of the Court of Inquiry. Sir W. Joynson-Hicks: I have already dictated letters to three gentlemen whom I have asked to act, and I believe that those letters will be here to be signed by me within the next few minutes.

Sir Kingsley Wood asked whether the Minister could announce the terms of the inquiry—the form of the reference which was to be put before the Court. Sir W. Joynson-Hicks: No, sir, but it will be a very simple one. I have not drafted it yet, but I may say, without binding myself to the exact terms, that it will simply be to ask the Court of Inquiry to ascertain what is the correct figure to be paid to the doctors for the medical service they render.

Sir J. Butcher: Will it be open to the representatives of the panel doctors, as well as to the representatives of the Approved Societies, to appear before the Court of Inquiry? Sir W. Joynson-Hicks: Yes, sir; both parties.

Workmen's Compensation Bill.

On the report stage of this measure, on November 13th, Mr. G. Spencer moved for the addition of a clause to apply the principal Act to miners' nystagmus or its sequelae. The Under Secretary for the Home Department (Mr. Godfrey Locker-Lampson) pointed out that the effect of the amendment would be to add the disease to the permanent schedule of the original Act, and would allow of no modification of it by order. This would be true also of the sequelae. In the recently published second report of the Nystagmus Committee it was made clear that the definition of nystagmus was too wide. The amendment was rejected by 185 to 102.

Another new clause was moved by Mr. Lowth to include in the schedule "any disease or affliction of the eye attributable to, or aggravated by, the employment." The Solicitor-General said that if a case could be made out for the inclusion of a particular disease it would be included, but the amendment was too wide. It was rejected by 187 votes to 176.

On November 14th the Solicitor-General moved to insert, in place of a subsection passed in Committee, a new one to lay down that the power of the registrar of a county court, under paragraph 15 of the first schedule of the principal Act, to refer a matter to a medical referee, might be exercised on the application of one of the parties, as well as on the application of both, subject, however, to appeal to the judge. The new subsection further laid down that where the application was made by only one of the parties, the registrar or, on appeal, the judge, if he were of opinion that, owing to the exceptional difficulty of the case or for any other sufficient reason, the matter ought to be settled by arbitration, should refuse to allow the reference. If either the employer or the workman thought the case was one that might properly be decided by a medical referee, power was given for application to the judge to order such reference, subject to the condition that if it were a case of neurasthenia or nystagmus, where there was a conflict of medical opinion, the judge might say: "I had better hear the case myself, and do the best I can." It had been suggested as an alternative that there should be reference to three medical men, but that would mean, in a case of a difference of opinion, two would be on one side and one on the other, and be no better than having the opinion of one. Moreover, such a method was more expensive. A third alternative would be to leave the decision with the medical referee, subject to an appeal to the judge; but many people would object to that.

Mr. T. Shaw, on behalf of the Labour party, said they were strongly of opinion that in highly technical cases there should be a Board of Referees with at least three medical men upon it. The Labour party thought that that would be better than having the evidence of medical men on each side, presented as far as possible to represent the view of the party for whom the particular medical men were giving evidence.

Mr. Greaves-Lord held that the best tribunal would be to have a court in which a medical assessor sat with the judge. Where the decision was against the employer—in other words, where the medical referee said that the man was still suffering from the accident—no great injury would be done, even if the decision were wrong, for the case could ultimately be reviewed. On the other hand, if the medical referee decided that the man had wholly recovered from the injury, and that decision were wrong, the county court judge would have no discretion, but must terminate the compensation. A man might thus be deprived of compensation to which he was entitled for the rest of his life. If the subsection went through in its present form there would be an argument before the registrar with solicitors or even counsel on each side, and a similar argument before the county court judge. It would be better to have the hearing before a trained lawyer, with a medical referee sitting with him. In the course of the discussion Dr. Watts, speaking from experience as surgeon to many large works, and a medical referee for many insurance companies, expressed the opinion that the proper course would be to refer these cases to the county court judge, sitting with a medical referee. He did not remember a single wrong decision where a medical referee had sat in open court with the county court judge. Medical referees appointed by the Home Secretary under the Workmen's Compensation Act were men of the highest reputation, appointed in a great measure with regard to the experience they had had in industrial diseases or in surgical work in connexion with accidents. He was inclined to think there would be a more satisfactory decision from one than from two.

On a division the proposed subsection was carried by 242 votes to 128.

Clause 13, requiring an employer to furnish to a man a copy of the medical certificate under which it was proposed to end or diminish payment, limited the period within which a disagreeing certificate from a duly qualified medical practitioner could be put in to one week. It was extended to ten days.

The bill was read the third time without division.

Pensions and Allowances.

In reply to various questions Captain Craig has given the following information:

The total number of persons in receipt of pensions from the Ministry of Pensions in September, 1923, was 2,300,000, as compared with 2,638,000 a year previously. The details were as under:

	September, 1922.	September, 1923.
Officers and nurses	31 500	28,000
Officers' widows	9,500	9,300
Officers' dependants	6,700	6,600
Children of officers' widows ...	8,700	8,500
Men	783,000	671,000
Men's widows	157,500	154,000
Men's dependants	359,000	354,000
Men's wives and children	940,000	745,000
Men's widows' children	343,000	333,000
	2,638,900	2,309,400

Excluding the cost of administration, the total expenditure of the Ministry for the year ended March 31st, 1923, was approximately seventy-six and a half million sterling, as compared with an expenditure of seventy million sterling for the present financial year, a decrease of 8½ per cent. The cost of administration (including that of medical services) would, it was expected, have fallen from £4,241,600 for the year ended March 31st, 1923, to £3,598,000, for the current year, a decrease of over £640,000, or nearly 16 per cent.

It was not the case that men admitted to be suffering from disabilities aggravated by war service had, as a class, been precluded from receiving medical treatment with allowances from the Ministry of Pensions. All that had been done by the instructions to which reference was made had been to bring the practice of the Ministry in regard to minor disabilities (of less than 20 per cent.) as far as possible into harmony with the existing practice in regard to major disabilities. No amending warrant was necessary for the purpose. If in any case a few more lessons than twenty-five were necessary in lip reading for pensioners deafened in the war, the Minister would always sympathetically consider it.

Mental Treatment Bill.—One of the misfortunes of the dissolution, involving as it has the curtailment of the autumn session, is that the Mental Treatment Bill, introduced in the House of Lords on behalf of the Ministry of Health, and passed through all its stages in that Chamber, reached only the second reading stage in the House of Commons. As bills cannot be carried over from one Parliament to another the measure is now defunct, and it remains for a new start to be made.

Doctors and Midwives' Fees.—The Minister of Health has stated in reply to a question that he understood that the fees of midwives varied from 15s. to 30s. a case in rural areas, and from one guinea to two guineas in urban areas. He had no information as to the charges made by doctors attending such cases in their private practice, but when a doctor was called in by a midwife under the Act of 1918, he received a fee of two guineas from the local supervising authority. The services rendered for this fee were specified in a circular issued by his department.

Venereal Diseases.—Captain A. Evans asked, on November 16th, whether Clause 16 of the Trevethin report, dealing with the expenditure of money for reducing venereal disease, had yet been considered by the Government; whether the question of Government financial assistance in the work had yet been decided; and whether in view of the fact that the Society for the Prevention of Venereal Disease and the National Council for Combating Venereal Diseases had both unconditionally accepted the Trevethin report, and had met in conference and had determined on joint action for giving effect to the recommendations, he would cause the maximum grant which was to be made by the Government to be divided in an equitable proportion between the two organizations. The Minister of Health replied that the recommendations in the report were now under the consideration of the Government. He was not yet in a position to say how any Government grant for the purpose mentioned had been allocated.

Tuberculosis Order, 1914.—The Minister of Health has received representations from local authorities urging that the tuberculosis order of 1914, which was suspended during the war, should be put into operation. The cost, however, was estimated at £80,000 from the Exchequer, and about twice that sum from local authorities. In the present financial stringency the Ministry would not feel justified in reviving the order in view of the small number of local authorities who had expressed their wish for its reimposition.

Glycerinated Calf Lymph.—The Minister of Health stated that in view of the fact that there was no difficulty in obtaining from reputable firms supplies of glycerinated calf lymph of reliable quality, he did not think it necessary to accept the suggestion that a supply of the Government lymph should be made available to private medical practitioners. It would involve a large and costly extension of the present Government supply.

Dried Milk.—The new regulations as to dried milk make provision for a minimum fat content, and for suitable labelling, including the use of the words "Unfit for babies" in the case of skim milk. It was necessary to allow a period of several months before bringing the regulations into force, in order to enable manufacturers to comply with the requirements as to the composition of the product, to print new labels, and to put the milk into circulation in retail shops. The question of making regulations affecting other milk products was being considered by the Minister of Agriculture.

Answers in Brief.—The figures at present available show a lower expenditure on sickness and disablement benefits from the National Health Insurance Fund in the first three quarters of the present year than in the corresponding period of 1922; the total expenditure on those benefits is within the actuarial estimate.

PERSONAL RELATIONS BETWEEN MEDICINE AND LITERATURE.

LECTURE BY MR. EDMUND GOSSE BEFORE THE ROYAL COLLEGE OF PHYSICIANS.

AT the Royal College of Physicians of London on November 20th Mr. Edmund Gosse, C.B., LL.D., delivered the first David Lloyd Roberts Lecture, taking for his subject "Personal relations between medicine and literature." Sir HUMPHRY ROLLESTON presided over a distinguished gathering.

David Lloyd Roberts.

Mr. GOSSE began with an appreciation of the man under whose bequest the lecture was founded. Roberts was not personally known to him, but he had had the advantage of consulting several eminent men who knew him well, in particular Dr. W. E. Fothergill and Dr. Herbert Spencer. This old Manchester physician was born not later than 1835, so that he was at least 85 when he died in 1920. He coyly deprecated his years, and once, on complaining of his health to his lady patients and murmuring, "I shall never see eighty," one sharp spinster reproved him by saying, "You will never see eighty again." He was a self-made man, who retained a certain roughness of speech and oddity of manner which revealed an undisciplined individuality. Dr. Fothergill said that it was the sight of a lifetime to see him cauterize a carcinomatous cervix with a series of red-hot pokers. This conveyed to the lecturer's vision an image of confused violence and unbridled eccentricity, reminding him of Goethe: "Who would ever become a doctor if he could foresee the horrors which face him in that profession?" Another witness in a thumb-nail sketch pictured Roberts in his old-fashioned brougham, peering out with great vivacity on both sides of the roadway so as to miss nothing in the silversmiths' and booksellers' windows. He was a booklover, a collector in the best sense of the word, quick to perceive the value of an acquisition, eager to enrich his shelves, ready to exchange a moderately excellent specimen for one supremely good. He left his library to be divided between the John Rylands in Manchester and that College—the secular books to the one, his medical books to the other.

The Two Professions.

The lecturer was anxious to approach his theme in the spirit which Roberts would have approved. If he failed he had less excuse than most men, for his communications with doctors and surgeons had been peculiarly agreeable. With Pope he could say, "There is no end to my kind treatment from the faculty. They are the most amiable companions and best friends, as well as the most learned men I know." In his own first youth it was his ambition to be a surgeon, and in fact he proceeded some little way in an imperfect preparation for an art for which he found himself constitutionally unfitted.

That men of letters and medical men had for centuries betrayed an identity of sympathy not to be found existing between doctors and men of any other profession might be taken for granted, and he would call to remembrance some eminent and perhaps some obscure examples. Diderot said that if human nature was to reach perfection the means must be found in the practice of medicine, and from all time the aim of literature had been the same. In both professions close and accurate observation of nature had been the basis of all advance. Literature was a criticism of life, and the same was true of medical science as of no third profession or art which he could call to mind. The effort to reach perfection in writing closely resembled the same effort in medicine, where it was not a purely technical but a metaphysical ideal which was ultimately aimed at. The more such philosophical speculations were examined the more assured would appear the sympathy existing between the one mode of envisaging life and the other.

It had been usual to group together medical men who had given literary form to their professional experiences and those who had written in poetry or prose on subjects independent of their professional work. He thought it important to keep these two classes as distinct as possible. It was plain that not everything printed in Latin or Greek, any more than in the vernacular, was literature. That almost incredible work, the *English Pharmacopoeia* of 1618, was no more literature than the prattle of popular almanacs. There was seldom any solicitude for form among the compilers of such old works. But the greatest of ancient physicians were nevertheless conscious of the permanent value of literary ornament. Ambroise Paré noticed that Hippocrates wrote so that he might be understood by the women and girls who talked no language but Greek, and to achieve this end he wrote with that attention to form which was the distinguishing mark of literature. It was not easy to say when these functions were distinctly combined in a published work. No criticism was necessary to show that the author of *Religio Medici* was a man of letters, but what was the position of his illustrious contemporary Sydenham, of whom it was said that he did communicate at divers times to the world the useful observations he made in the course of his practice? On the other hand, there need be no hesitation in placing out of court the scribblings of the seventeenth century quacks with their velvets and their dried crocodiles and their stuffed owls.

The School of Salerno.

The famous school of Salerno in southern Italy was the nucleus of medical education in the early Middle Ages. In the dismal ninth century, when culture was perishing elsewhere, this little lamp shone at Salerno. The general tone of Europe was one of priest-ridden terror and abandonment to superstition and ignorance, but at Salerno they were eminently sane, preferring experience to conjecture, and centering their healthy interest in the body, not in vague researches into the nature of the soul. Sir Clifford Allbutt had noted that the professors of Salerno wrote in clear natural language, not the unfiltered jargon of the schools. The Greek spirit and something of the Greek language lingered here. There flourished in the ninth century in France a physician called Floridus, probably the earliest physician-poet, who wrote an enormous construction of

hexameters about the medical virtues of plants. He attempted to give a literary cohesion to the observation and conjectures of science, and this was obviously the method followed by the school of Salerno, for whose physicians and pupils the literary habit of mind was attractive. A leading Salernian recommended verse as a medium for medical and surgical statement. The lecturer could not accept the view that the metrical shape was preferred because it offered a means of committing didactic information to memory; there must have been a great deal more than that in the medical poetry of the school of Salerno. He mentioned the *Regimen Sanitatis*, by John of Milan, addressed to laymen, not to the faculty, but extensively copied, and at last published in English in 1607. It was impossible to believe that this was not a definitely literary enterprise. Evidently the influence of literature on medicine was actively exercised in the now shadowy school of Salerno.

Sir Thomas Browne and his Contemporaries.

Abruptly taking his audience to England in the seventeenth century, the lecturer remarked the complaint of a Scottish physician of the age of Shakespeare that the Latin language was not friendly to the sacred founts of the medical art. This was a great discovery in an age when it had been as indecorous to write of physic in any language but Latin as to walk in the streets without a wig. The illustrious Ambroise Paré wrote almost ostentatiously in his own French, and it was after the works of Paré had been translated into English early in the seventeenth century and had influenced our physicians to express their views in their native tongue that, whether as coincidence or result, Sir Thomas Browne began to compose his *Religio Medici*. That famous book was the earliest in which the harmony between the physician and the man of letters was complete. It was written to discover how religion bore the test of scientific training and to combat the prevalent worldly belief that the anatomist could have no piety.

In the closing year of the Commonwealth there appeared a medical poem in English, *The Plague of Athens*, not, however, written by a doctor, but by a clergyman, Thomas Sprat, afterwards Bishop of Rochester. What was really in Sprat's mind was not the record of Thucydides, but the terrible and unprecedented epidemic which had recently laid Naples waste. It was an extended poem; one of its suggestions was that the doctors themselves helped innocently to disseminate the plague. Against that should be quoted Massinger's tragedy, *The Virgin Martyr*, in which the distracted father welcomed the physicians to his son's bedside: "Turn your mysterious Aesculapian science to increase the number of this young man's days." John Locke, in his *Essay on the Human Understanding*, introduced views of health to which no philosopher would have given literary form half a century earlier. Locke's friendship with Sydenham was not to be overlooked in this connexion, nor the strong approval given by the latter to a man of letters who seemed never to have taken his medical degrees. Locke was a figure whom neither the Royal College of Physicians nor an Academy of Letters (if there were one) could officially recognize; both as writer and physician he was the amateur incarnate; nevertheless, he appeared at this critical moment to supply a valuable instance of the growing harmony between literature and medicine. When Browne with his divine ecstasy and Locke with his tolerant candour had taught the world to treat ideas as the anatomist treated the human body, the professions were brought into a union which could never be broken up again into the discord of the Middle Ages.

Sir Richard Blackmore and Sir Samuel Garth.

When the lecturer was considering this subject, the eminent Harveian Librarian of the College said jocosely, "I suppose you will resuscitate Sir Richard Blackmore." As a pupil of Sydenham he left Blackmore in their hands, but as an epic poet not even Phoebus Apollo could resuscitate him. Yet he did not agree that Blackmore was a quack; he was a reputable physician who had taken, whatever Dryden might say, all the usual degrees at Oxford and the doctorate of physick at Padua. He was not less than 45 when he produced the epic poem *Prince Arthur*, singularly vapid and futile, but savagely attacked, not because it was bad poetry, but because a physician wrote it. Two years later he published *King Arthur* (343 folio pages), and stated that its couplets were composed as he went from door to door.

> In leisure hours in epic song he deals,
> Writes to the rumbling of his coach's wheels.

The multifarious seventeenth century was just closing when the last embargo dividing literature from medicine was removed. It was broken down by Sir Samuel Garth, an ardent member of the Royal College of Physicians and its Harveian Orator. He practised among the fashionable residents of St. James's, and held converse on terms of perfect equality with the wits in the coffee houses. Garth was not a poet among physicians or a physician among poets, but a poet among poets and a famous doctor among famous doctors—according to his contemporaries a genuine son of Apollo. His great mock-heroic poem, *The Dispensary*, first issued in 1699, dealt with a feud of the day, the incidents of which he brightened by his own vivacity; but the significance was that in that poem the claims of literature and medicine were recognized as on an equality of importance. Critics found little pleasure in his other poems, but this one continued to interest because it combined in so curious a manner the best half-science of the age with the best half-poetry. In the last year of the seventeenth century John Dryden died. Garth secured the body, brought it to the Royal College—then in Warwick Lane—had it embalmed and laid in state, and a fortnight later pronounced a Latin oration over it, and then conducted a company to Westminster Abbey, where it was deposited in the Poets' Corner.

John Arbuthnot, Physician and Wit.

The reign of Queen Anne, with all its shortcomings, was far more cultivated and humane than any age before it. The physician was welcomed at all clubs and coffee houses where he introduced an element of humanity and an experience of suffering and patience which was not lost on his more volatile companions. Prominent among such physicians was Dr. John Arbuthnot, whose company was sought by the most eminent contemporary writers, and whose name would live in a celebrated outburst of Pope. Arbuthnot sat in the circle of wits as "our best-natured man." On both Pope and Swift, who were invalids, neurotic and nervously irritable, he exercised a soothing influence, and his society was equally congenial to the more normal members of the immortal band—Gay, Steele, Congreve, and others. John Arbuthnot was an Aberdonian who settled in London, and owed his success and his position at court physician to an accident at Epsom, when he was the only doctor available to attend a prince. For a quarter of a century he was a planet in the constellation of wits, to which he added a lustre of his own. Pope spoke of him as a star which looked all fire, but was really all benignity, all gentle influence. He fell out of favour with the court, but never with his literary friends, to whom he could still afford the poet's half-pint of claret and a warm welcome.

Of the other poetical physicians and doctor-wits of the eighteenth century it would be entertaining to speak. Some of them had never been received within the precincts of the College—John Armstrong, for instance, and Oliver Goldsmith. But he would not expatiate on them or on their successors, right down to our living Poet Laureate who was a Fellow. He would like to close with a tribute to the great and gentle John Arbuthnot, who completed the friendship between literature and medicine. If Dr. Lloyd Roberts had chosen to perpetuate his sense of the relation of the two professions in sculpture instead of oratory, he thought that a statue of the author of *The History of John Bull* (Arbuthnot), with busts of Pope, Steele, Swift, and Gay at the corners, would have well served his purpose.

THE SIGNIFICANCE OF THE BRAIN STEM IN MUSCLE TONE AND SENSE OF POSITION.

COMPARATIVELY little is known of the functions and the relations of the mid-brain and its nuclei to the medulla oblongata and the cord, in connexion with reflex actions, and in particular with muscle tone. The tendency of some clinicians has been to refer certain neurological symptoms to specific basal ganglia on hypothetical considerations rather than on actual experimental and *post-mortem* findings. In the latter it has become customary to neglect somewhat the brain stem and upper cord, and to pay too much attention to the parts above this.

R. Magnus and his colleagues in Utrecht[1] have attempted to elucidate the functions of the mid-brain and its influence on the body as a whole. The classical experiments of Sherrington and Goltz showed that the spinal cord can transmit to the whole of the musculature extraordinarily complicated reflexes, essential to the upright position, yet, as is well known, if efferent impulses from the higher centres in the brain are prevented from reaching the cord, as by section high up in the cervical region, the animal is incapable of standing. According to Magnus, if such a spinal animal is held in the air, it carries out rhythmical movements with its hind limbs entirely similar to normal movements of progression, the scratch reflex is present, and on defaecation complicated movements are carried out involving the hind limbs, tail, and other more distantly situated groups of muscles; nevertheless the animal is unable to stand. This is only possible when the cord is in direct connexion with certain parts of the medulla oblongata.

Sherrington has shown that in mammals decerebrate rigidity follows transection of the brain stem at the level of the tentorium cerebelli. Here the extensor muscles of the neck, the erector spinae, and its continuation in the tail, and the extensors of the limbs are in a condition of hypertonicity, whilst the tonus of the antagonizing muscles is almost or entirely absent. Such an animal placed on its feet remains in a position of muscular hyperextension. Decerebrate rigidity depends upon afferent impulses originating in the muscles and joints reaching the respective centres in the caudal part of the medulla oblongata. The condition may be produced by transection of the brain stem just anterior to the level of the eighth nerve, only disappearing when section is carried out in the region of the calamus scriptorius. The exact position of the centres in question producing rigidity has not yet been ascertained owing to the many difficulties encountered. Such an animal, if pushed over, is incapable of getting up again.

Magnus has shown[1] that in decerebrate animals the attitude of the body as a whole—that is, the tonus as a whole—can be controlled by particular positions or attitudes of the head, a complementary movement of the body occurring on moving the head. This interesting relationship has proved on analysis to be the result of two different continuously acting groups of reflexes, named by Magnus "tonic labyrinthine" and "tonic neck" reflexes, depending upon the particular position of the head in space, more especially to the horizontal, and of the head to the trunk respectively. To study the labyrinthine reflex it is necessary to eliminate the neck reflex by preventing movements of the head relative to the trunk, either by applying a plaster collar or by cutting the posterior nerve roots in the neck. In such an animal the extensor reflex in the limbs is at a maximum with the head slightly pointing upwards, gradually diminishing to a minimum as it is depressed through an angle of 180 degrees. This reflex arises in the maculae of the utricles by stimulation by the otoliths, and is connected bilaterally with the trunk, but homolaterally with the neck muscles. The centres for the reflex have been shown experimentally to lie in the medulla just caudal to the eighth nerve.

In order to investigate the neck reflexes the labyrinthine reflexes are first abolished by bilateral extirpation of the labyrinth. It is then found that by altering the position of the head the extremities are reciprocally innervated—for example, ventral bending of the head results in diminished tonicity of the fore limbs and increased tonicity of the hind limbs. These two groups of reflexes act together and in a complementary manner in varying proportions, and take place in an exactly similar manner in the intact animal, not only in the vast majority of lower animals but also in mammals; in the ape and man, however, some difficulty is encountered in demonstrating this, but they can be shown to exist in man under anaesthesia, or where certain diseases of the nervous system are present. This has been demonstrated quite recently by Simons in spastic diseases following injury to or diseases of the brain.

Decerebrate rigidity disappears gradually as transection is carried out more anteriorly, and in animals, called by Magnus "mid-brain" and "thalamic" animals, a more equalized distribution of tone between extensor and flexor muscles becomes evident, exactly similar to that obtaining in the normal animal. In contrast to the decerebrate preparation, however, such thalamic animals, if knocked down, at once get up on to their legs, through the action of a reflex termed the "postural" reflex. Analysis of the latter reflex has shown that it is brought about by two separate afferent impulses, one labyrinthine, the other cutaneous. The labyrinthine factor is demonstrated by the fact that a thalamic or mid-brain animal held in mid-air will reflexly turn its head into a normal attitude in space, whatever position the trunk is made to assume. Extirpation of the labyrinth, however, abolishes this completely, so that the head is held in the same position in space as the remainder of the body. These labyrinthine reflexes controlling posture of the head arise in the maculae of the saccules and possibly in those of the utricles. The other factor consists in afferent impulses from the tactile end-organs all over the body, and is shown by the fact that an alabyrinthine thalamic animal, with the head in line with the body, on being placed on the table in any position, immediately turns its head into the normal attitude; this reflex can be neutralized by exerting an equal pressure on the opposite side of the body. If the body is in such a position as to induce an attempt to bring the head reflexly into the normal, but is prevented by an abnormal position of the body, a third chain of reflexes is brought into action, so that the whole body, first the anterior part, then the posterior, is brought into line with the head. The reflex from the end-organs of the trunk, however, will also bring the trunk into a normal posture, even if the head is forcibly held in an abnormal position.

Thus there are four distinct reflexes present, so that each movement is doubly controlled. The head is brought into a normal position through the labyrinthine reflex and the postural reflex of the body on the head; the body is similarly controlled by postural reflexes arising in the body and in the neck. Asymmetrical stimulation of the cutaneous end-organs results in assumption of the normal attitude of the body and head. In some animals a fifth, the "optic," reflex is present. Thus, an alabyrinthine ape is unable to bring his head into normal position with the eyes bandaged, but can do so if sight is allowed.

As shown experimentally by Magnus, the centres for the neck reflex lie in the anterior part of the medulla near the pons, those for the labyrinthine and trunk posture in the most anterior portion of the mid-brain; he has also definitely proved that a large proportion of the afferent and efferent paths to the head lie in the brain stem, but for the body most probably run through the cerebellum. The exact localization of some of these centres has not yet been worked out in its entirety, but Magnus has definitely established that the centres for normal tonus and postural reflexes are to be found between a point at the most anterior part of the corpora quadrigemina and another immediately anterior to the exit of the oculo-motor nerve from the mid-brain, an area of 1½ mm. in length, in the region of the substantia nigra, embracing the red nucleus and a portion of the mid-brain ventral to this. Section of the (efferent) rubro-spinal tract, which crosses chiefly at Forel's decussation, shows that it is absolutely essential for the transmission of these two reflexes. Destruction of the red nucleus results in decerebrate rigidity and loss of

[1] *Deut. med. Woch.*, April 20th, 1923.

postural reflex. It may therefore be concluded that the red nucleus (1) controls decerebrate rigidity; (2) controls normal tonus; (3) is the centre for the labyrinthine reflexes for the head, and probably transmits those for the body; (4) is of importance for the postural reflex. On the other hand the anterior and posterior longitudinal bundle, the decussation of the superior peduncles of the cerebellum, and the substantia nigra almost certainly have no influence on these functions.

According to Winkler, the rubro-spinal tract gives off no collaterals in the medulla, hence it is probable that it ends in the various centres in the cord itself, so that hypertonicity of the muscles is thereby directly controlled; in addition the pyramidal tract influences more particularly the flexor muscles, as shown on cerebral stimulation.

It is noteworthy that when the corpus striatum is disconnected from the medulla by section just anterior to the red nucleus, there are no contractions, rigidity, loss of movement, tremors, athetosis, or choreiform movements usually associated with extra-pyramidal affections—symptoms which clinicians usually refer to the interference with the functions of or cutting off of these from the cord.

England and Wales.

The Lancaster Medical Book Club.

This club gave a dinner on November 14th in celebration of the hundredth anniversary of its foundation on November 11th, 1823. About ninety members and guests were present. The President (Mr. A. S. Barling) was in the chair, and was supported by Sir Norval Helme, Professor A. C. Seward, F.R.S., Mr. J. E. Singleton, K.C., M.P., Mr. E. W. Wingate-Saul, K.C., Canon Coates, and Dean Blundell. The original minute book was shown containing the resolution forming the club. It reads as follows:

> "It is expedient to establish a society to be called the Lancaster Medical Book Club to consist of the gentlemen present and such other medical gentlemen resident in Lancaster as shall hereafter be elected by a majority of existing members."

After the loyal toasts Dr. W. H. Coupland proposed "The Guests" in very graceful terms. He emphasized the importance of the influence of mind over matter, and advocated the collaboration of the spiritual and bodily advisers. Whilst paying tribute to the research workers he said that we must look to the general practitioner for warning of the earliest signs of disease. Mr. Singleton and Dean Blundell replied appropriately. Professor Seward then proposed "The Club." After a few local references and reminiscences he came to his main theme, the relation of pure science to medicine, which he described as an applied science. He said that every medical man ought to have a thorough grounding in science, and mentioned particularly biochemistry and biophysics. They ought to study the beginnings of life in its lowest forms. The President, in reply, gave a short history of the club, which, although it retained its original name, had for more than half a century, if not from the first, been a clinical and ethical society. He then gave an epitome of medical progress since its establishment, and remarked that although much had been done far more remained undone, and that so long as tubercle and cancer were unconquered the profession had little cause for self-admiration. It had every reason to fear the judgement of posterity. All the wise men of the world had but touched the fringe of the hem of the mantle of knowledge. He urged his fellows to test everything new, and ever have with them the deathless words of St. Paul: "Prove all things; hold fast that which is good." To quote from the old minute book (1827), "The evening was spent in the greatest harmony and good order and the company separated about twelve o'clock."

Leeds Health Exhibition.

The city of Leeds is now holding a health and municipal services exhibition in the Artillery Drill Hall, Fenton Street. The exhibition was opened on November 13th and will remain open until December 1st. The stand devoted to the Public Health Department has its exhibits arranged in ten sections, illustrating respectively sanitation, smoke abatement, food and drugs control, hospitals and infectious diseases, maternity and child welfare, venereal diseases, tuberculosis, vital statistics, housing, rat and mice destruction. In addition to these displays a series of demonstrations, cinematograph films, and lectures dealing with various subjects of public health importance, is being given in the lecture hall, and leaflets on kindred matters are distributed at the stand. Among the other municipal services represented in the exhibition are the waterworks, cleansing, sewerage, and baths departments, and a concise account, with historical notes, of these and the other civic activities is given in an attractively prepared handbook to the exhibition. The Public Health Department came into being after the passing of the Towns Improvement Clauses Act in 1847, and its first medical officer of health, appointed about the year 1866, was Dr. M. K. Robinson. Before that time any sewerage work done in the city was carried out by the police. With the passing of the Public Health Act of 1875 and the increased responsibility thereby laid upon the department, the number of the staff was greatly increased, and since then it has continued to expand under successive medical officers of health—Dr. George Goldie, Dr. J. Spottiswoode Cameron, Dr. William Angus, and Dr. Johnstone Jervis, the present head of the department.

The Central Midwives Board.

At its meeting on November 15th, when Sir Francis Champneys was in the chair, the Central Midwives Board for England and Wales had before it a letter from the British Medical Association, renewing its protest against the permission given to midwives to use opium on their own initiative. The Board decided to inform the British Medical Association that it saw no reason to alter the decision at which it had already arrived. The resignation of Dr. Eardley Holland as examiner at the London centre was accepted, and Dr. Aleck W. Bourne appointed in his place. The report of the Board for the year ending March 31st was approved and transmitted to the Minister of Health. A copy of the revised rules, which are to come into effect on January 1st, was forwarded to the Minister for his approval.

Post-Graduate Course at Bath.

A second series of post-graduate demonstrations was given at the Royal United Hospital, Bath, on Saturday afternoons from October 6th to November 10th. Lectures were given on the following subjects, and when possible illustrative cases were shown: (1) Pneumonia; (2) common diseases of the rectum; (3) "rheumatic" diseases, comprising sciatica, osteo-arthritis, gout, and rheumatoid arthritis; (4) venereal and skin diseases; (5) acute infections of the hand; (6) diabetes and the administration of insulin. An operation was performed at every meeting except the last, when there was a demonstration of museum specimens. Clinical demonstrations were given on cases of general interest at the first, second, and fifth meetings. Before the last meeting the class, which comprised some forty practitioners, chiefly from the surrounding country towns, entertained the staff to lunch and presented them with a cheque for £50 for the museum fund.

Ireland.

Irish Medical Appointments on a Civil Service Basis.

During a debate on the second reading of the Civil Service Regulations (No. 2) Bill, 1923, at a recent meeting of the Dail, Sir James Craig, M.D., T.D. (Dublin University), expressed surprise and disappointment that the bill did not extend the principle of competitive examination much further. He strongly advocated its application to the medical services in the State, public hospitals, sanatoriums, etc. It would do away with the many objectionable features in connexion with making appointments by election. Sir James said that public opinion in the Free State was in favour of making all medical appointments by competitive examination; in support

of his statement he pointed out that the National Convention which met in 1917 to draft a constitution for the Irish nation recommended that the vacancies occurring in the public medical services should be filled by competitive examination. In the scheme of medical services formulated by the Irish Public Health Council in 1920 provision was made for filling medical vacancies on a civil service basis, and in 1910 a referendum of the Irish profession showed, almost by a unanimous vote, that it was in favour of filling all vacancies in the public medical services by competitive examination. The General Council of County Councils, as late as this year, made similar recommendations. It was understood a Public Health Bill would be introduced shortly under which medical officers of health would be appointed. Personally, he would rather see the bill torn into shreds than have it passed, if it meant putting into office men who were not efficient.

A Tuberculosis Scheme.

The Ministry of Home Affairs (Northern Ireland) held an inquiry seven months ago in connexion with the tuberculosis scheme in the County Fermanagh. The inquiry was ordered in consequence of allegations that the scheme was too costly, and that in particular the travelling expenses of the medical officer and the cost of nursing were excessive. It will be remembered that the Commissioner, prior to the inquiry, decided to limit the medical officer's travelling expenses to a sum of £120 a year, and to dispense with the services of the whole-time nurse who was to have been employed under the scheme. The medical officer, Dr. Timoney, was originally appointed at a salary of £500, which was intended to include the cost of travelling, but later he was allowed second-class train fare and ninepence a mile for motor hire, on the understanding that he would use the train whenever possible. The trouble with regard to his expenses appears to have arisen because Dr. Timoney never took the train, but used his own motor car on all occasions, charging mileage for its use, and the Commissioner and others concluded that the ratepayers were thereby put to unnecessary expense. From the figures which have been furnished, however, it does not appear that there are sufficient grounds for holding that the use of the motor car by Dr. Timoney, to the exclusion of the train, has resulted in increased cost to the ratepayers. It seems clear that Dr. Timoney's plan of using his own motor car to visit all cases is certainly not uneconomical. The sum of £120 per annum proposed by the Commissioner in the circumstances is inadequate, and the Ministry considers it fair that he should be paid his actual travelling expenses, and in order that these may be properly checked he should be supplied with forms similar to those used by travelling officers of Government Departments, in which he should furnish a weekly report, in diary form, of the work done by him and the expenses incurred. The mileage rate should also be reduced from ninepence to the rate allowed to Government officers, which is sevenpence a mile for a four-wheeled motor car with four ordinary seats and over 11 horse-power, with lower rates for smaller cars.

Nursing is a necessary part of any scheme for the treatment of tuberculosis, and if adequate facilities were provided for all parts of the county the cost of nursing would not be less, but considerably more than it is at present. At the same time the Commissioner appears to have been justified in considering that the cost of the whole-time nurse employed in Enniskillen was excessive in proportion to the work done. As regards the general cost of the scheme, the total expenditure for the half-year ended September 30th, 1922, was £1,576 11s. 2d., and for the year ended March 31st, 1922, it was £2,904 14s. 6d. The average cost for the eight years April 1st, 1914, to March 31st, 1922, was £2.119 14s. Deducting receipts, the average cost was £1,712 18s. 10d. a year, and as half is recouped by the Government the average cost to the rates was £856 9s. 5d. a year, representing a rate of less than one penny in the £ on the valuation of the county. The average number of cases under treatment in a half-year was 214. The actual number under treatment in the half-year ended September 30th, 1922, was 209; of these 176 were dispensary cases, 32 institutional cases; there was one other case. In view of these figures it seems difficult to support the contention that the scheme is an extravagant one.

In conclusion, the Ministry expresses the hope that the result of the inquiry will be to clear away many misconceptions regarding the scheme and to show that, while it is not as complete as it might be, it fulfils a useful purpose and enables much good work to be done in preventing the spread of tuberculosis.

Insulin.

The second meeting of the Ulster Medical Society was held in the Medical Institute, Belfast, on November 8th, when the President, Professor Symmers, was in the chair, and Dr. John Milroy read a paper on certain aspects of the physiology of the pancreas. He accounted for the long delay in elucidating the full function of the organ by its double action; in bony fishes there were two separate organs. He gave an account of the preparation of insulin, of its fate in animals, and of its standardization; it was found in the urine as well as blood and pancreas, but not elsewhere. It was decomposed by the proteolytic action of the gastric juice. The experiments relating to the cause of convulsions in hypoglycaemia, to the relation of fat and carbohydrate metabolism, and to many other problems, were narrated. Dr. Sinclair Miller of Harrogate read a paper on the use of insulin in diabetes mellitus. He gave a description of the clinical aspect of the use of insulin, the precautions to be observed, the necessity of full examination for the estimation of blood sugar, and for the regulation of diet according to results. The treatment of mild, of medium, of severe cases, and of cases of renal glycosuria was illustrated by numerous charts thrown on the screen. Dr. J. A. Smyth, assistant in charge of the metabolic laboratory in the Royal Victoria Hospital, related the experience of the Royal Victoria Hospital in the use of insulin. He illustrated his remarks by charts of glucose tolerance in the normal, in hyperpituitarism, pregnancy, in encephalitis lethargica, and cases of lowered sugar threshold. The treatment of the ordinary forms of diabetes and of exceptional forms and complications was commented on and illustrated by cases. Numerous patients were shown who had been admitted to hospital with very advanced symptoms, but now gave unmistakable evidence of good health and well-being. Drs. Calwell, McKisack, Morrow, and Burns briefly intimated their very high appreciation of the papers, as illustrating the application of science to practice. Dr. Burns mentioned the case of a patient who had had a course of insulin with great advantage, but after a dose given some time later to deal with a slight relapse presented phenomena of anaphylaxis.

Scotland.

New Maternity Hospital for Edinburgh.

On the invitation of the directors of the Edinburgh Royal Maternity and Simpson Memorial Hospital, a private conference of delegates appointed by the Town Council, the Board of Health, the Royal Infirmary, the University, the Royal Colleges of Physicians and Surgeons, and the medical staff of the hospital, met the Board of the hospital on November 16th, in the Council Chambers, to consider the question of providing an enlarged and up-to-date maternity hospital for Edinburgh. Dr. T. G. Nasmyth, chairman of the directors, who presided, explained the circumstances which made the provision of a new hospital necessary. After full discussion it was unanimously resolved that a new maternity hospital, with a minimum of 150 beds, is an urgent necessity if the maternity needs of the city and district and the training of students and nurses are to be adequately provided for. A committee representing the various bodies was appointed and instructed to report on the subject of a new hospital generally, with special reference to suitable sites and the future relations between the hospital and the infirmary. After the receipt of this report a public meeting will be called.

Reorganization of Scottish Board of Health.

If Parliament had not come to a sudden end, it was anticipated that Viscount Novar, Secretary for Scotland, would have moved the second reading of the Reorganization of Officers (Scotland) Bill, which provided for the appointment of a permanent Under Secretary for Scotland, who, among his other duties, would be vice-president of the Board, and would have reduced the number of members of the Board to three (save *ex-officio* members). The Association of Executive Officers and other Civil Servants has issued a circular expressing the view that the time has arrived to abolish the Board altogether, and to arrange for the duties of the department to be discharged by a permanent head directly responsible to the Secretary for Scotland and the Parliamentary Under Secretary.

Prevention of Diphtheria.

A public lecture was recently delivered by Dr. Robertson, M.O.H. Edinburgh, under the auspices of the Leith Academy Parents' Association, on the prevention of diphtheria. The introduction of antitoxin had greatly reduced the severity of diphtheria and had diminished its death rate. In 1913 Shick had introduced a method by which it was possible to discover those who were susceptible to diphtheria. He had found that among newly born infants only 7 per cent. were susceptible, but in the first year of life the susceptibility rose to 43 per cent., while between the ages of 2 and 5 years to 63 per cent.; among adults only 10 per cent. were susceptible. The present scheme of inoculation was designed to restore to the boy or girl the power to thwart infection. The importance of this could be gathered from the facts that in the past ten years 7,823 cases of diphtheria were notified in Edinburgh, and that 734 had died. Of the cases notified 7,542 had been treated in hospital at a cost of £90,504. Dr. Claude B. Ker, medical superintendent of the City Hospital, who described the scheme in detail, said that he hoped attention would soon be turned to protection from whooping-cough.

The International Physiological Congress.

Sir Edward Sharpey Schafer presided last week over the final meeting of the General Committee of the eleventh International Physiological Congress, held in Edinburgh last July. The secretaries reported that 462 names were enrolled from twenty nationalities—a larger number than had attended any previous congress. The treasurer's account showed a small credit balance. Resolutions of thanks were passed to the late Lord Provost of Edinburgh, Sir Thomas Hutchison, Bt., and to Lady Hutchison for the part they took in rendering the congress a success; to the principal and secretary of the University for promoting its interests; and to the University Court for granting the use of the university buildings and laboratories.

Correspondence.

PUERPERAL MORBIDITY.

Sir,—In 1905 at the Annual Meeting of the Association it was suggested that a standard should be fixed for puerperal morbidity. This was done by a small committee and the following published in the Supplement on May 19th, 1906 (p. 261):

"That the table of puerperal morbidity should include all fatal cases, and also all cases in which the temperature reaches 100° F. on any two of the bi-daily readings from the end of the first to the end of the eighth day after delivery."

Several hospitals, including the Rotunda, adopted this standard, and now show their morbidity results based upon the British Medical Association standard, but there has all along been considerable variation in the interpretation. In the Rotunda every case is classed as morbid if the temperature rises to 100° F. on any two occasions from the second to the eighth day inclusive; all deaths are included in obtaining the rate of morbidity. At the Jessop Hospital, Sheffield, the rate is obtained from all cases "in the first eight days with a rise of temperature of over 100° F., occurring twice in twenty-four hours and excluding the first day." The rate is shown with and without deaths included. At St. Mary's Hospitals, Manchester, the standard is stated to be "A rise of temperature (during the first eight days of the puerperium) exceeding 100° F. occurring twice within twenty-four hours, irrespective of pulse rate and excluding the first twenty-four hours after delivery." Deaths are not included. The above three definitions are all given in the reports as the British Medical Association standard.

As will be seen, the Rotunda includes a temperature of 100° F., while the other two hospitals exclude this. Further, a case with a temperature of 101° on the second and fifth days would be included in the Rotunda, but excluded in the others. As an instance of the effect of the two readings, in last September eight cases are classed as morbid in the Rotunda, but only one would be so classed on either of the other hospital readings of the standard.

I do not think any standard will give perfection, and any standard is effective for control in the individual institution, but the variation of readings defeats the object of the British Medical Association standard as a means of comparison, or for obtaining statistics.

I would like to know the views of others on the respective readings and if opinion is in favour of a reading other than the one I adopt, I would fall into line; perhaps some of the members of the British Medical Association connected with other hospitals will give their interpretation of the British Medical Association standard.—I am, etc.,

Gibbon FitzGibbon, M.D.,
Master, Rotunda Hospital, Dublin.

November 19th.

BUTYN AS A LOCAL ANAESTHETIC IN NOSE AND THROAT PRACTICE.

Sir,—Dr. Hill's article on this subject (British Medical Journal, November 10th, p. 876) is a valuable contribution to the comparative study of this new anaesthetic as a substitute for cocaine. Especially is it of interest from the fact that the position which butyn will take will probably depend largely on its efficiency in nose and throat operations. There are one or two questions raised by Dr. Hill regarding difficulties in the acceptation of butyn as a substitute for cocaine regarding which I would like to make a few comments. Starting first with the cost, butyn is more expensive, it is true, but as only a small quantity is required this is of no practical importance, at least in ophthalmic use. A 2 per cent. solution can be bought at 6s. an ounce—that is, a penny will buy six drops, a quantity more than sufficient for most operations on the eye. For the nose and throat probably more would be required, but even then the expense would not be prohibitive. Dr. Hill finds that in some of his nasal cases butyn fails to act, and he correctly adds that I made no mention of this occasional failure of butyn to anaesthetize; he continues: "On referring to Bulson's report I find that others have noticed that certain individuals, not a large number probably, have failed to respond to butyn." In my paper (British Medical Journal, January 13th, 1923) I made no reference to the occasional failure of butyn to act because I had never experienced it. Dr. Bulson's statement (*Annals of Otology, Rhinology, and Laryngology*, March, 1922) regarding intranasal operations is as follows:

"A 5 per cent. solution of butyn combined with epinephrin is swabbed over the operative field and well beyond if possible. Within two or three minutes following the first application, flattened pledgets of cotton, soaked with the solution, but from which the surplus has been squeezed out, are applied snugly over the operative field and whenever possible over the source of sensory nerve supply. These pledgets are removed at the end of five to eight minutes. Five minutes later operative procedures may be commenced with the assurance that in practically all cases the patient will suffer no pain or even discomfort. The exceptions are rare, and comparable to the exceptions under the most thorough efforts to secure anaesthesia from cocaine, where occasionally we encounter a case of either unusual sensitiveness, or antagonism to the anaesthetizing effect of the anaesthetic through psychic or other disturbances, and pain and discomfort in such cases occurs irrespective of the agent or technique employed in attempting to anaesthetize the tissues. To offset the fear and nervousness that occasionally is present the patient is given a preliminary hypodermic of morphine and atropine, or morphine and hyoscine, but this practice is a routine procedure when cocaine is used."

A more serious consideration is the question of toxicity. The manufacturers point out that they do not claim that

butyn is non-toxic, and they advise that caution should be taken in increasing the administration above the recognized dose. Probably all anaesthetics are toxic, and anaesthesia itself is a mild form of toxicity.

The published experiences of surgeons will enable a decision to be made regarding butyn's position as a substitute for cocaine.—I am, etc.,

Bath, Nov. 13th. W. M. BEAUMONT.

VACCINATION PROPAGANDA.

SIR,—You have been so generous in according me the hospitality of your columns, both on this and previous occasions, that only the great importance of the issue involved can justify my asking you to insert this further letter.

In your last editorial (November 17th, p. 939) you endeavour to discount my suggestion that vaccination by its very success in modifying the severity of small-pox tends to make the diagnosis, and therefore the prevention, of small-pox more difficult. You suggest that my case amounts to this: "Certain children are to be immolated on the altar of diagnosis in order to protect other children whose parents refuse to give them the protection of vaccination." I do not think that this is quite a fair way of presenting my case. The real question at issue is this: Might we not be more successful in preventing the spread of small-pox and in reducing the total number of deaths (I am speaking of the Asiatic type of the disease) in an unvaccinated than in a partially vaccinated community?

Take the case of the serious outbreak at the Poplar Workhouse last year. The whole outbreak was clearly traced to a man, H. W., vaccinated in infancy, who had such a mild and modified attack that the real nature of his illness was never suspected until, a fortnight later, a large crop of secondary cases occurred scattered throughout the institution and also outside. At first the situation looked extremely threatening and great alarm was felt lest an extensive epidemic should result in the East End. As showing the widespread nature of the outbreak, no less than 350 contact houses had to be kept under observation. Yet thanks to the prompt and efficient measures taken by the M.O.H., Dr. F. W. Alexander, and his staff—first amongst which measures were isolation of the sick, and, secondly, vaccination and surveillance of contacts—the outbreak was quickly brought under control. Nevertheless, it resulted in 42 cases and 14 deaths, most of these being directly infected by the vaccinated man, H. W.

Now, let me ask, what effect had infant vaccination upon this unfortunate and disastrous outbreak? Can anyone reasonably suggest that neglect of infant vaccination was in any way responsible for the outbreak? Did infant vaccination stamp the outbreak out? As a matter of fact, the large majority of the cases, as well as a majority of the deaths, were in persons who had been vaccinated in infancy. I suggest, in all seriousness, that it was infant vaccination which, in large measure, was really responsible for the outbreak. I say deliberately that if this man, H. W., whose unrecognized attack of small-pox was the direct cause of the outbreak, had never been vaccinated in infancy it is in the highest degree improbable that his attack would have been unrecognized; and had it not been unrecognized the man would at once have been isolated, contacts would have been vaccinated, and there would have been no serious outbreak. It is true that H. W. might have been "pitted," or he might even have died, but 42 other persons would not have contracted the disease, East London would not have been threatened with a serious epidemic, and 14 persons would not have lost their lives.

It is not as if the Poplar outbreak was an isolated or exceptional experience. Similar instances, though not all so striking, simply abound in the annals of small-pox epidemics. Take as samples the outbreak in Stepney last year, or the outbreak in the West End, originated by a vaccinated lady from Spain, a few months ago. As Wanklyn says in his book *How to Diagnose Small-pox*, "Almost every outbreak in London in recent years has been started, or propagated, or prolonged, by unrecognized cases." And as Ricketts and Byles say in their classical work, *The Diagnosis of Small-pox*, "The times have changed since the days of Jenner. Besides that we have less practice in the art, several circumstances cause the diagnosis of small-pox to present to us more difficulties than to our forefathers. *To Jenner we owe the chief of these difficulties.*" (Italics added.) And as Dr. P. Boobbyer, M.O.H. for Nottingham, has said: "One of the principal difficulties encountered in the preventive treatment of small-pox at the present time is due to the effect of vaccination, or rather insufficient vaccination." (Health Report, 1902.)

No doubt Dr. Boobbyer, like you, Sir, would prefer to have more vaccination—that is, universal revaccination; but if we cannot have more vaccination, I suggest that it is quite conceivable we should be better off, so far as small-pox prevention is concerned, with less vaccination.—I am, etc.,

Leicester, Nov. 17th. C. KILLICK MILLARD.

SIR,—I am more than surprised to find that any doctor in the present generation could, in the light of recent research, advocate non-vaccination or antivaccination as a means of reducing the death rate; surely every physician of experience knows that vaccination for any disease is only carrying out Nature's plan of curing by producing immunity. The unfortunate fatalities mentioned by Dr. Millard have without doubt no connexion whatsoever with vaccination itself, but have evidently been due to carelessness in performing an otherwise simple operation. Personally I have given thousands of vaccinations against small-pox and almost every other disease during the last thirty-six years, including vaccinating myself, and never had a single septic complication. When we consider that millions of lives have been saved by vaccination within the last ten years, no one in his senses would give up such a valuable means of deliverance from some of the most fatal diseases of mankind.—I am, etc.,

Dublin, Nov. 19th. WILLIAM VERNER FURLONG.

OBSERVATIONS ON CANCER.

SIR,—In connexion with the discussions on cancer in general, and the investigations as to its origin in particular, perhaps I may be allowed to put forward some jottings on points suggested by a clinical study of cases in general practice spread over many years. To a great extent it is for the general practitioner to make his observations and notes, and then hand them to the consultant and the pathologist.

I should like first to put down a number of suggestions as to facts to be observed, and to suggest some general and special conclusions that may be drawn therefrom. (Such facts as here stated are put down as individual observations and, no doubt, are inaccurate in many points.) Secondly, to give some possible hints as to treatment in inoperable cases.

1. Facts to be observed:

(*a*) The comparative immunity of chronic dyspeptics from gastric cancer. I have been struck by the fact that the majority of patients I have attended with gastric cancer have had strong digestions previously.

(*b*) In cancer of the oesophagus—the very common association either with the excessive drinking of concentrated forms of alcohol or of excessively hot fluids.

(*c*) The slow growth, or in some cases retrogression, of carcinoma of the bowel after the making of an artificial anus, thus stopping the constant passing of irritating liquid intestinal contents over the diseased surface.

(*d*) The comparatively slow growth and mildness of symptoms where the cancer has a chance of growing freely in some direction, without causing excessive tension of the structures into which it grows.

(*e*) The incidence of sarcoma in young and vigorous tissues, and of carcinoma in old and less vigorous tissues, apart from the fact that the former grows in the mesoblast, the latter in the hypoblast and epiblast, and that the former is spread by the blood current, the latter by the lymphatics

(*f*) The apparently more frequent incidence of carcinoma where a rich and very mixed diet is habitually taken.

(*g*) A suggestion for the systematic study, and tabulation of the results of such study, of the natural history of cancer in inoperable cases—the natural course or courses of the diseased process when allowed to proceed unchecked.

(*h*) The possible influence of mentality on the incidence and course of cancer, as to whether it is commoner in people of melancholic or apprehensive temperament, especially in those who cannot throw off ideas of anxiety and depression.

The inferences to be drawn must, of course, depend on prolonged study of a collated series of observations on cases.

2. Possible hints as to treatment in cases where operation is impossible or inadvisable.

Over a period of fourteen years I have tried the systematic administration in inoperable cases of cancer of an alkaline (potash) mixture of iodine (the essential ingredients being tinct. iodi, ɱj to ɱij, and liq. potass. ɱvi to ɱx in one ounce doses of the mixture). In a large number of cases I have observed the general condition improve, the pains diminish, and the signs of growth of the cancer become less marked. On giving up the mixture, the symptoms have returned. I have found a similar mixture very effective in the treatment of (1) rheumatism and gout; (2) tuberculous glands in children; (3) pulmonary tuberculosis. The question here, I think, arises, What are the pathological processes common to these various diseases or diseased conditions? It seems to me that the most obvious pathological process common to them is small-cell growth. May it be that the iodine of this mixture (the ingredients forming, in the stomach, free iodine, potassium iodide, and potassium iodate) exerts some inhibitory action on such small-cell growth in these various diseases, probably by the formation or reconstitution of some necessary hormone or hormones? I might mention that when I have replaced the potash-iodine mixture by a potash mixture not containing iodine the good effects have either disappeared or at least greatly diminished; thus apparently showing that the iodine was the potent factor and the potash at any rate merely auxiliary.—I am, etc.,

G. D. Parker, M.B.Lond., M.R.C.S., L.R.C.P.

Cookham Dean, Nov. 1st.

ATTITUDE IN CATHETERIZATION OF THE BLADDER AND BLADDER DRAINAGE.

Sir,—Dr. Bamber, in the British Medical Journal of November 17th (p. 947), raises an interesting question, and, I think, answers it correctly.

Owing, moreover, to the existence of a "post-prostatic pouch" in the majority of cases where there is residual urine, it is impossible to empty the bladder completely by the ordinary mode of catheterization, especially in the supine[1] position.

To meet this difficulty I have for many years used a modified *coude* rubber catheter, the beak of which dips into the pouch. If continuous drainage be required in the lying position, it is essential, of course, to connect the outer end of the catheter with a tube which discharges at a lower level than the level of the urine in the bladder. If this were seen to, and the bladder washed out twice daily, sepsis would be less marked and less common. There are many modes of rendering a rubber catheter *à coude;* I prefer the insertion of a short spiral of brass wire, bent properly, into the distal end.

A constant source of trouble is the partial escape of the catheter; this can be entirely prevented by the introduction of a small metal tube, one inch long or more, into the catheter where it is to be fixed at the meatus, thus preventing bending of the catheter. If its end be then passed through a perforated piece of gauze and the latter tied firmly round the former, and the remainder of the gauze tied behind the glans, we have the simplest and, I think, the best means of securing the catheter in position.—I am, etc.,

James MacMunn.

London, E.C., Nov. 18th.

CANNABIS INDICA IN SMOKING TOBACCO.

Sir,—In your issue of November 3rd (p. 841) Mr. E. Griffiths-Jones, M.Sc., of Cairo, seeks further information on this subject, and in particular on the method of analysis employed in the case I reported. I am not a chemist, but Dr. Henstock, M.Sc., etc., who undertook the analysis, has sent a full account of his methods to the *Pharmaceutical Journal*. Meanwhile, let me say that though the amount of drug administered must have been small, the symptoms were unequivocal, and cannabis indica was discovered by various qualitative tests. Also, a most important point, and one that I was not aware of when I sent in my communication, Dr. Henstock tested several other brands of tobacco, with negative results in every case. As regards the qualitative test, Dr. Henstock admits this was more or less rough and ready, being the tinctorial method, but he thinks the amount rather underestimated if anything. Also the figure 0.66 per cent. *does* refer to the extract, and the proportion of 1 drachm of the *B.P.* tincture per ounce of tobacco is therefore approximately correct.—I am, etc.,

R. L. E. Downer.

Shrewsbury, Nov. 13th.

[1] By a slip of the pen this word was written "prone" in the original letter.

TWO SOLECISMS.

Sir,—On reference to an etymological dictionary, I find the word "solecism" defined as "any glaring deviation from the established usage of a language in speaking or writing—any impropriety or barbarism of speech." I venture to suggest that there are two solecisms—as defined above—in very common use: one in speech, and the other in writing. I refer to the common habits of (1) addressing the envelope containing a letter to a medical man as "Dr. Jones" (or whatever his name may be) and (2) addressing him conversationally as "doctor."

It is surely obvious that the first is wrong. To address him conversationally as "Dr. Jones" may be, of course, correct: but to direct an envelope to him as "Dr. Jones" is just as certainly "barbarous." No doubt it is sometimes convenient, as perhaps one may not remember his initials or Christian name. But would you think it right to address the envelope of a letter to, say, a lawyer or a cleric as "Mr. Smith" or "Mr. Robinson"? That method of address might be quite correct conversationally, but is certainly quite incorrect in the case of the necessarily formal method of address outside an envelope.

Then with regard to (2), addressing a medical man conversationally as "doctor." How would you like it if he or she adopted your method, and replied to you, "Yes, lawyer," or "Yes, wine merchant," or "Yes, housewife," as the case might be? The fact that these two solecisms are, and have long been, in common use, is no excuse for their perpetration. There is, as we all know, a common trick in a certain class (or in aspirants to that class) of "leavin'" out the terminal *g*; there is also a still commoner trick (in another class) of either leaving out, or putting in, the letter *h* at the wrong time. Surely no one will attempt to defend these vulgarisms by pointing out that they are sanctioned by wide or long usage!—I am, etc.,

Suum Cuique.

November 10th.

The Services.

Lieut.-Colonel W. A. Simmonds, I.M.S. (ret.), has been granted an Indian good service pension.

DEATHS IN THE SERVICES.

Deputy Inspector-General Robert Hall More, R.N. (ret.), died at Plymouth in the beginning of November, aged 83. He was educated at Aberdeen, where he graduated M.D. and C.M. in 1862, and entered the navy in the same year. He became fleet surgeon on April 29th, 1883, and retired, with an honorary step in rank, on January 27th, 1895. He was commended for good service in an epidemic of yellow fever at Bermuda in 1864, and received the Gilbert Blane medal in 1883.

Colonel William Edward Webb, Army Medical Staff (ret.), died at Southampton on November 11th. He was born at Wimborne, Dorset, on December 11th, 1851, and educated at King's College, London, and at Aberdeen, where he graduated M.B. and C.M. in 1873, and M.D. in 1882; he took the L.S.A. in 1873, and the D.P.H. in 1889. He entered the army as surgeon on September 30th, 1873, he attained the rank of colonel in 1902, and retired in 1905. He served in the Egyptian war of 1882, was present at the battle of Tel-el-Kebir, and received the medal with a clasp and the Khedive's bronze star; also in the Sudan in 1885, in the Nile expedition, receiving a clasp. During the recent great war he was re-employed from July 15th, 1915.

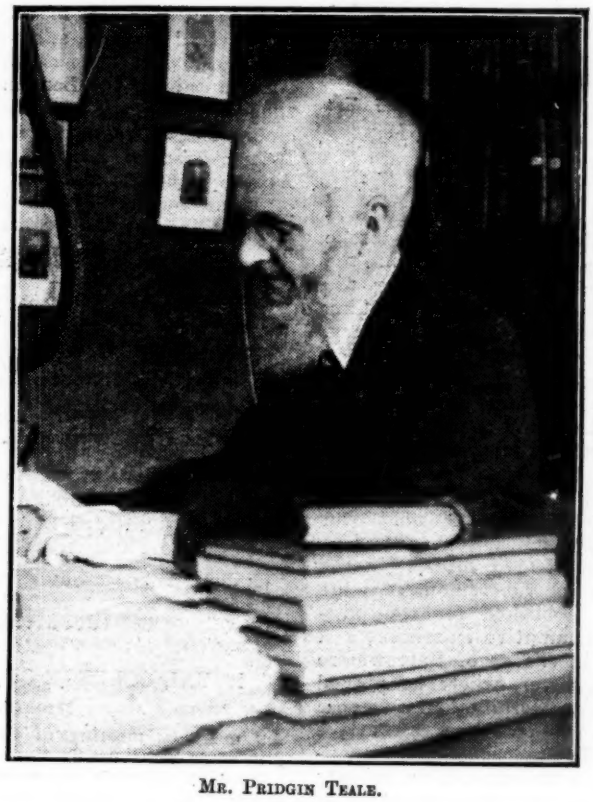
Obituary.

THE LATE MR. PRIDGIN TEALE.

A Tribute by SIR CLIFFORD ALLBUTT, K.C.B., P.C.

THE request for some more intimate appreciation of my late friend recalls many memories. With his eminent father I had had some earlier acquaintance, and received from him many a courtesy; but his son I had not seen before I settled in Leeds. My first memory of him is as I saw him crossing the street to call on me—a rather small, slight, brisk man dressed not in the professional garb of the consultant of the time, which he was one of the first to cast aside, but in the lounge suit and bowler hat of to-day. On that afternoon began a friendship which lasted cloudless for more than sixty years.

The subcutaneous use of certain drugs, or morphine especially, had been invented at St. George's shortly before my pupilage there was ended. Teale and I began some experiments on the method. We first discovered the remarkable tolerance of morphine by the rabbit—the only animal readily available at that time. On this by-way we were held up until, soon afterwards, the Antivivisection Acts stopped our researches altogether. But on the suggestion of another dear friend, Hughlings Jackson, I undertook a closer study of medical ophthalmoscopy, and Sir James Crichton-Browne, always in the van, encouraged me to extend my observations in the West Riding Asylum. Mr. Teale, who was a pupil of Bowman, and proficient in eye work, most kindly associated me with himself in both his public and private practice; an invaluable discipline which enabled me to write a book on the subject, which had its day.



MR. PRIDGIN TEALE.

Our next joint effort was the endeavour to deal with scrofula, then a far more grievous malady, and a cause of pain and deformity to many more young people than it is now. For the most part little was done beyond incision of subcutaneous abscesses, and banishment to the seaside, where the worse victims were dragged about in litters with their necks fixed in yokes. Thus the disease was left for the most part to increase, propagate, caseate, break into abscess, and damage the skin on which cure largely depended. We had at first only the worst cases to deal with; neither doctor nor parent would agree to the early surgical interference by which we desired to secure a linear scar so placed as to be drawn up invisibly under the jaw. By dealing with these severe cases, however, we learnt many of the tricks of the disease. Well I remember, in our early attempts, the case of the tall, handsome, and courageous daughter of one of our greater Yorkshire houses upon whose huge bilateral scrofula Teale had to operate, for more or less, including the excision of old puckered scars, fourteen times; and with, at last, satisfactory results. Among other devices we learnt the peril, even in early cases, of overlooking small subfascial or submuscular burrows leading to rotting glands no larger than small peas. Our operation caught on, and it will hold its way until by radium, perhaps, and still better by prevention, it become unnecessary. This was our chief work in common; but during my residence in Leeds we travelled together over many a field in mutual counsel and help.

Teale's pioneer work in sanitation and heating are too well known to need my story of it. But fertile in dodges and dexterities, his hand was to be seen in almost everything with which he was concerned. His bookcases were dust-proof, yet ventilated; the face of his clock was divided not with cumbrous figures, but with long and short dashes; even his pencils differed from other people's. We used to say that a patient who had not much the matter with him might retire from a consultation with more information about his fireplaces or his drains than about his own eyes or limbs. Enthusiasms are very infectious.

I think Mr. Teale was the first surgeon, or one of the first, to provide a nursing home for his private operations. He bought a house and thoroughly cleansed and refitted it from top to bottom, especially the latter. It was not a popular step at the time, for the family doctor lost the carrying on of the case after the operation. But Teale argued that if he was to be responsible for the issue of his operations he must have full control of the conditions, and of ready appliances for all contingencies. Such was the sincerity and generosity of his character that opposition soon died down, and other surgeons followed his example.

As a surgeon Teale was both dexterous and wise. His hands were delicate, and his touch sensitive. As he began to operate, his features, at other times so mobile, set into an expression of calm resolution; and whatsoever crosses or surprises might be in store for him, I, who was often present, never saw him perturbed; if necessary his plans would be quickly changed for the best.

Throughout all Teale's work, his social life, and his public engagements there shone the light of a nature of rare beauty and charm. He was one of those who carried into maturity and old age the blithe generous enthusiasms of youth; a childlike frankness, unselfishness and sincerity. His first wife was a great sufferer for some years before her death; long years during which his friends saw with anxiety his devotion and utter forgetfulness of self; his broken nights, at a period when his surgical work was at the flood, not only borne without a murmur but with an innocent unconsciousness of any sacrifice. Our pedantic psychologists are just now discovering the differences between the contemplative man and the practical man. Highly intelligent rather than intellectual, Teale was never happy till he could take action, till he saw his way to *do* something. He thought with his fingers. Mental suspense worries men of this kind; and in conversation it was delightful to see how with his quick and open mind Teale would brighten at the mention of some new device, his eyes would sparkle, and by lively gesture, such as the little clap of the hands that his friends knew so well, he would rejoice in the vision of an idea which he might bring to the test of practice.

Pridgin Teale was a shining example of the generous brotherhood which, from the days of the Heys and Samuel Smith to the present honorary staff, has been the inspiration of the Leeds School of Surgery.

A NOTE BY HIS DOCTOR.

Dr. R. H. HALL writes: My relations with the late Mr. Pridgin Teale were necessarily very intimate and friendly as I have been his ordinary medical attendant for the last ten years.

He was the most delightful old man I have known; and I thoroughly enjoyed my visits to him, and always learnt much from them, as his experience and knowledge were prodigious. I think, perhaps, his greatest charm was his intense and kindly interest in other people and the complete absence of the usual self-absorption of extreme age. Up to three weeks ago he still took the greatest interest in politics and the affairs of the day and the progress of medicine and science; and he would quote passages from Latin and Greek with the relish of a "true classic"—and which, I am ashamed to confess, I professed to recognize. I perceived that the ideal of his life had been a very high one and that his goal had been "discovering the truth and perfecting his work." In his frail and very slight body there was a great and courageous soul—three years ago he faced with unwavering courage and calmness a major operation, which Sir Berkeley Moynihan performed on him with the most brilliant results, that added three more happy years to his life.

The passing of his great, gentle, and courtly spirit causes me, and all who knew him, a very real sorrow, and we feel a great pang of regret at having to part with "Dear Old Teale," as we all instinctively called him.

[*A detailed account of Mr. Teale's career was published last week, page 948.*]

FRANK STANLEY TINKER, M.B., B.Ch.Camb.

The death occurred on November 11th of Dr. Stanley Tinker, at the age of 36 years, after a long illness. He was educated at Liverpool College, at Repton, and at Pembroke College, Cambridge, where he graduated B.A. in the Natural Sciences Tripos of 1908. After obtaining the M.R.C.S. and L.R.C.P. diplomas in 1911, and holding various house appointments at Liverpool Royal Infirmary, he showed some early signs of pulmonary tubercle, on account of which he went to Arosa, Switzerland, in the spring of 1913. For two years or more he underwent sanatorium treatment, ultilizing the time to make himself familiar with both the clinical and the laboratory sides of the work. In 1914 he returned to England to take his Cambridge medical degrees, and next year became in succession school medical officer and tuberculosis officer for one of the divisions of Surrey, and medical superintendent of Crooksbury Sanatorium, Farnham. His interest in the provision of municipal workshops for tuberculous patients resulted in a scheme which he published for the post-sanatorium employment of the consumptive ex-soldier, and no doubt led to his appointment in charge of Barrowmore Hall Tuberculosis Colony, near Chester, where he proved himself to be an able administrator. Here he had a relapse which ultimately proved fatal. He had been an active member of the editorial board of *Tubercle*, and was responsible for a translation of Cornet's monograph on miliary tuberculosis. His death removes one whose combination of administrative and clinical ability was producing work of real value. Stanley Tinker was an only son; he leaves a widowed mother, a widow, and two young children.

Dr. Edwin Augustus Wadeson died after a short illness on November 13th, at South View, Sedbergh, Yorkshire, where he was a well known and respected local practitioner. From Sedbergh school he went up to St. John's, Cambridge, and afterwards became a medical student at the London Hospital. He graduated M.B., B.Ch. in 1890. He commenced practice in Sedbergh thirty-four years ago, and for eighteen years was medical officer and public vaccinator for Dent. By dint of unsparing zeal and untiring devotion to his practice, he had won such a place amongst the people of the countryside as is attained by few. A man of ability, but unassuming and plain, he had given his life entirely to the welfare of his people, and died in harness, lamented by all who knew him. To his widow and daughter the deepest sympathy will be extended.

By the death on November 11th of Dr. Charles Richardson in his 81st year, Leeds loses one of its oldest medical practitioners. Dr. Richardson took the diploma of M.R.C.S.Eng. in 1867, and subsequently practised in Leeds up till about ten weeks ago, when he underwent a severe operation. He was an ex-president of the Leeds and West Riding Medico-Chirurgical Society, and late surgeon major 2nd West Riding Royal Engineers, having been awarded the V.D. He took a keen interest in all forms of recreation. He was a man of outstanding personality, who gained the confidence of his patients and colleagues. He is survived by a son in South Africa, who is a member of the medical profession, and three daughters.

Dr. Hubert H. Thomas of Brynhyfryd died on November 1st, aged 53. He was the son of the late Dr. William Thomas, for many years assistant overseer for Swansea, and received his medical education at Charing Cross Hospital. He took the diplomas of L.S.A. in 1895, and the Scottish Triple qualifications in the following year. On returning to Swansea he assisted in the practice of his uncle, the late Dr. Howel Thomas, J.P., and subsequently undertook what became later a large practice at Brynhyfryd. He was medical officer at the Cwmfelin works, where he was held in high esteem by the workpeople. He took great interest in ambulance work; he founded the Brynhyfryd division, and was subcommissioner of the priory of Wales. Dr. Thomas was a keen sportsman and at one time captain of the London Welsh Rugby team, and at the time of his death was captain of the Manselton cricket club. He was a member of the Swansea Division of the British Medical Association, and a justice of the peace. At the commencement of business at the Swansea police court on the day of his death a vote of condolence with the relatives of the deceased was passed. At the funeral on November 5th six staff officers of the Order of St. John acted as pall bearers, and the medical profession was well represented, Dr. Horatio Rawlings acting as the representative of the British Medical Association.

The death is announced of Dr. Boulloche, a well known Paris pediatrist.

Dr. Genaro Sisto, professor of pediatrics in the University of Montevideo, has recently died. His essay on constant crying as a sign of congenital syphilis in infancy, sometimes known as Sisto's sign, was awarded the Peiron prize of the Paris Académie de Médecine.

Universities and Colleges.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Meeting of Council.

An ordinary meeting of the Council was held on November 8th, when Sir John Bland-Sutton, President, was in the chair.

Diplomas of membership were granted to 170 candidates. The diploma of Fellowship was granted to Sybil Grace Mocatta. Mr. C. H. Fagge was appointed to represent the College on the General Council of the Fellowship of Medicine, and Mr. Raymond Johnson was appointed to represent the College on the Managing Committee of the Schiff Home of Recovery.

It was reported that five lectures on the influence of environment on the life of bacteria would be delivered in the lecture theatre of the College by Mr. F. W. Twort, superintendent of the Brown Animal Sanatory Institution, on December 11th, 13th, 17th, 18th, and 19th, at 4 p.m.

The President reported that the vacancy on the Court of Examiners occasioned by the expiration of Mr. Warren Low's term of office would be filled at the ordinary council meeting on December 13th. Mr. Low is eligible for re-election.

Annual Meeting of Fellows and Members.

The annual meeting of Fellows and Members of the Royal College of Surgeons of England took place on November 15th, under the presidency of Sir John Bland-Sutton.

The annual report (British Medical Journal, October 6th, 1923, p. 636) was presented, and questions were invited. Mr. C. E. Wallis asked for a statement of the attendances at museum demonstrations, and Dr. F. W. Collingwood inquired how many Fellows had returned their votes in the recent election to Council. The President replied that a careful record was formerly kept of museum attendances, but it had been allowed to fall into abeyance; in future it would be restored. The number of Fellows voting in the election to Council was 1,052.

Dr. Edwin T. H. Nash was in charge of a resolution affirming the desirability of admitting Members to direct

representation on the Council of the College, and requesting the President and Council to consider some means whereby Members in general practice might be represented on the Council. After paying a tribute to the late Sir William Thorburn, Dr. Nash said that his position in moving this resolution was not provocative but pacific. At the same time he wished to reply to some of the arguments which the then President, Sir Anthony Bowlby, had advanced at the last annual meeting. Sir Anthony Bowlby had said that during the war, when he met many Members of the College on service, none of them had complained to him of disabilities. But that was not an occasion when men would be likely to discuss their civil grievances, and in any case it was only negative evidence. Again, it was stated by Sir Anthony Bowlby that there were Fellows on the Council who could be said to represent general practice; the speaker knew of no one on the Council who was acquainted in any close degree with the difficulties of the general practitioner. A further remark of Sir Anthony Bowlby was that the Society of Members did not embrace the 16,000 Members of the College. That was true, but it could claim to represent the man who had nothing but what he called his "Conjoint" when he compared himself in the open market with those who had a university degree. There was a feeling that the man who had only the "Conjoint" belonged to "the lesser breeds without the law," but a very large majority of "Conjoint" men were the victims of circumstances, their parents having either been ignorant of the medical portal or with insufficient means to afford the extra year to take either the London degree or the Fellowship. The speaker dealt with some of the difficulties of the men entering medical practice in London as compared with the provincial graduates who had, as it were, the university on their doorsteps. He was sure that those who were on the Council of the College did not appreciate the difficulties which the men who had qualified under its guidance had to suffer, and he suggested that six members of the Council should meet around a table six Members of the College who were only "Conjoint" men and talk over the position. He had enough faith in the general goodwill and common sense to promise that, if the President would agree to that suggestion, he would at once withdraw his resolution. The President giving no sign, Dr. Nash proposed the resolution as it stood.

Dr. Redmond Roche seconded, and asked whether it was reasonable that there should be an electorate of 1,600 in a corporate body of 18,000. It was true that some Fellows were in general practice, but theirs was really a special type of practice, and they could not be said to represent the average general practitioner. Even so, no Fellow engaged in general practice had ever been elected to the Council of the College, nor was it likely that he would be in view of the great numbers of consulting surgeons who were Fellows. What steps had the Council taken to elicit the views of its present electorate on the admission of Members to the franchise? Sir Anthony Bowlby had said that a referendum had been taken on two previous occasions, but those two occasions were as far back as 1886 and 1897. In reviewing the past struggles it was interesting to recall the fact in this centenary year of the *Lancet* that the founder of that journal evoked the wrath of the authorities of the College by holding an unauthorized meeting, and, the police being summoned, he spent several hours, if not the whole night, in Bow Street police station! Quite recently the Society of Members had issued a questionary to all Fellows, to which a surprisingly large number had replied, and 73 per cent. of those replying had stated themselves to be in favour of the principle that Members should be granted some representation on the Council, and about half of these had testified to their willingness to assist the efforts of the society in this direction. Sir Anthony Bowlby had spoken disparagingly of the membership of the society, but of course, as in all such bodies, the society included, not all those affected, but the more energetic and zealous men. During the last year it had circularized all the Members of the College, and only one man had written to say that he felt no particular interest in the matter, while hundreds of Members and many Fellows had since joined the society.

Dr. Nash moved that the question be now put, and Mr. Dennis Vinrace seconded, their object being to prevent any possible disturbance of the peaceful atmosphere by a prolonged discussion, but the point was not taken, and the discussion was continued by Dr. F. G. Lloyd, Dr. F. W. Collingwood, Dr. Arthur Haydon, and others. The President then put the original resolution and declared it carried unanimously.

Dr. H. M. Stratford moved to request the President to make a statement to the meeting as to the difficulties, legal or otherwise, which in the opinion of the Council prevented it from assenting to some form of direct representation of Members. Dr. Charles Hayward seconded, and said that the real trouble was the charter of 1843, in which the rights of Members were "jumped." During the past year 50 new Fellows and 632 Members had come in, so that the constituency which had no vote was increasing at twelve times the rate of the constituency which had a vote. The finances of the College derived four times as much support from the Members as from the Fellows, yet it was only the Fellows who had a voice in the management.

This motion also was carried unanimously.

The President said that this was the first time he had had the privilege of presiding at the annual meeting, and he had paid very careful attention to the answer he should give. The previous year Sir Anthony Bowlby had made a clear statement of the views of the Council in regard to a similar resolution, and with this statement he associated himself. Under the charter of the College the Fellows were the electorate. Every Fellow was eligible to stand for the Council, and any Member could become a Fellow by passing the required examination. The Fellows of the College were engaged in all kinds of practice, special and general, and Fellows in general practice had served on the Council. Although the Members numbered 16,000 it had always been difficult to get a quorum of thirty—2 per 1,000—at the annual meeting, and this might be taken as an indication that Members as a whole had little cause for complaint so far as the management of the College was concerned. At the last election to the Council four-fifths of the electorate voted, showing that the Fellows took an interest in the affairs of the College. The College was incorporated for the promotion of the art and science of surgery. Its principal duty was to take care that those who desired to become Members should be properly educated and trained in that art and science. The College contained a library and other facilities for the use of Members and Fellows alike. The Membership of the College was in great demand, and its diploma as a standard of ability was recognized throughout the world. If Members had any considerable grievances medical men and women would not be so keen to obtain this diploma. The outstanding position of the College was in a great measure due to the constitutional provisions of the charter, and the Council regarded the changes advocated by some Members as arising from a mistaken view of the functions of the College.

We have received the following letter with reference to the President's speech:

Sir,—Will you favour me with space to reply to the remarks of the President of the College at the close of the annual meeting? The Members had not an opportunity of answering then, and Sir John Bland-Sutton did not reply to the suggestions made nor to the points then brought forward for the first time. Instead he read out a previously prepared statement. The President told us if we wanted a vote for the Council all that was necessary was to become Fellows! He lauded the status of the College, its library, and museum. The mouse in the trap is not particularly interested in being told of the excellent quality of the cheese that has attracted him. He is likely, if he can—by wireless or otherwise—to tell his own little mice and other mice outside not to follow him. The President appears to give all the credit to the Charter of 1843 for the high position of the College to-day. One seems to have heard of great surgeons of the College before that date, and surely John Hunter deserves some credit for the fame of the museum. Is there not some evidence of myopic vision in the prospect and retrospect of the Council of the College? The Member is "the foot" in the shoe, and he knows when and where it pinches. All he asks is that his "head" (the Council) should appreciate, and if possible relieve, his discomfort. That is not possible if the lines of communication—the nerves—between the "foot" and "head" are disconnected as they are at present. There is no liaison officer between the Members and the Council, no way by which the Council can now get first-hand knowledge of the Members' views. This is the essence of the Members' difficulty and claim.

From the President's speech one would infer that the College is only concerned with the production, on eugenic lines, of a perfect surgical baby. When he is born his Alma Mater leaves him on the (outer) steps of the College for any foster-mother to protect—for example, the British Medical Association. This appears to be their conception of parental responsibility. If such is the sole function of the College, as Sir John Bland-Sutton appears to claim, why does it speak in the name of its 18,000 Members, without first ascertaining their views, on matters of medical policy when consulted by the Government, etc.? The Council last year made a point that in conceding the Members' claim it would be acting at variance to the views of its electorate of 1,700 Fellows. Can it be believed that the last occasion it consulted the Fellows on this question was in January, 1897—nearly twenty-seven years ago? The Society of Members sent a questionnaire post-card to the Fellows some

months ago. The results are still coming in from abroad, but a surprisingly large number of Fellows courteously replied, and over 73 per cent. of the replies were in favour of the Members' claim.

The Fellows were praised by the President for showing great interest in their College because less than two-thirds of them voted (by post) for the Council; while the Members were said to be apathetic because, though scattered over England and the Colonies, busy men in general practice, they did not in larger numbers attend the annual meeting to vote *in person* for their claim. Can it be wondered that they are not eager to come when the only result of their exertions is to receive from the Council a chilling *non possumus*? Is there logic or fairness or even a common denominator in this comparison? Would it not be more reasonable for the Council, if they have any real doubt as to the Members' views, to issue a questionnaire to them on the subject? If they would then meet representative Members round a table they could easily reach a solution satisfactory to all which would greatly strengthen the College and its diplomates.—I am, etc.,

REDMOND ROCHE,
President of the Society of Members of the Royal College of Surgeons of England.

November 17th.

UNIVERSITY OF LONDON.

THE following candidates have been approved at the examination indicated:

THIRD M.B., B.S.—‡Susanna M. Bernard, †Joan O. Geldard, *†D. Krestin, †D. Levi, *†A. A. Moncrieff, *A. J. Morland, ‡Eileen M. Saxton, ‡E. F. Smith, *S. E. Tanner, Edith I. L. Abbott, Kathleen Ardell, J. V. Armstrong, Jessie H. Baxter, D. E. Bedford, A. Blackstock, Kathleen N. Blomfield, Hilda A. Bond, F. Brockington, Ellinor M. Burnett, J. C. Churcher, R. S. Coldrey, Gladys M. Cox, Helen I. Davies, Mary L. Davies, Winifred Ealand, H. C. Edwards, G. W. Elkington, Mary E. Fox, A. W. Gott, Dorothy E. Gray, Margaret C. N. Hadley, T. Handel, Gladys Hill, Lydia M. Houghton, Laura M. Jacobs, A. L. P. Jeffery, L. M. Jennings, H. V. M. Jones, P. T. Jones, G. Klionsky, C. P. Ledward, Mary A. Leslie-Smith, Dorothy N. L. Leverkus, J. H. M. Lloyd, D. M. MacManus, Caroline A. Meade, Margaret S. Mills, W. E. M. Mitchell, D. C. Muir, A. B. Nutt, Judith E. M. Ormerod, Beryl Palmer-Jones, Emily C. N. Paterson, T. V. Pearce, Ruth W. Plimsoll, E. D. Pridie, Margaret A. Quine, W. M. Ramsden, Isabella McD. Robertson, M. Robinson, Olive M. Salmon, Agnes B. Smith, Edith E. Stephens, Ella M. Straiton, R. S. Swindell, Ida M. Tancock, J. Whitby, J. de S. Wijeyeratne, Caroline I. Wright, Marguerite A. M. Xavier, Mildred M. E. Yate.

The following have passed in one or other of the two groups of subjects:

Group I: Muriel E. Binns, Hilda M. Cunnington, D. J. Davies, Barbara J. Edwards, Lucy M. Elsom, W. S. Evans, J. W. Joule, D. C. McIntosh, Kate Madders, Grace H. Newell, Elizabeth M. Nicholson-Smith, M. L. Sutcliffe.

Group II: Doris K. Brown, Cecily D. Crosskey, K. H. Deane, V. P. De Zoysa, G. F. Gibberd, S. J. Golden, Rachel Halperin, J. R. Hamerton, A. D. Hepburn, Gwynedd Hugh-Jones, Kathleen M. Hyslop, D. J. Jones, R. F. Lane, L. O. Lindsay, F. Louis, H. J. Malkin, Doris I. Mart, Violet E. M. Mizen, G. S. Morgan, R. M. Morris, J. P. Peel, C. S. C. Prance, Phyllis M. Rex, H. N. Rose, W. H. Royal, Marjorie Rushbrooke, A. R. Rutnam, Mary M. Sillito, Dorothy M. Stewart, Doris M. Stone, W. Thomas, Kathleen C. Vost, E. G. L. Walker, J. A. Walker, Joan F. Whitelock, E. Williams, J. G. Wilson, Esther Wingate, Edith V. Wood.

* With honours and distinction in Medicine.
† With honours and distinction in Surgery.
‡ With honours and distinction in Midwifery.

UNIVERSITY OF GLASGOW.

The Samson Gemmell Chair of Pediatrics.

THE draft ordinance instituting the Samson Gemmell chair of Pediatrics was formally approved at the last meeting of the University Court. The chair, for which the late Mr. William Gemmell, brother of Professor Samson Gemmell, bequeathed the sum of £20,000, is to be a university chair connected with the Royal Sick Children's Hospital.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

AT a quarterly meeting of the Royal College of Physicians, held on November 6th, the President, Sir Robert Philip, in the chair, John Lindsay Boyd, M.D., was elected a Fellow of the College, and William Macrae Taylor, M.B., Robert Alexander Chambers, M.B., Atholl Robertson, M.D., and Joseph Primrose Leckie, M.B., were elected members. The Hill Pattison Struthers Bursary in Clinical Medicine was awarded to Mr. E. R. C. Walker, and the Hill Pattison-Struthers Bursary in Anatomy and Physiology to Mr. T. D. Gould, and the Wood Bursary to Mr. I. A. G. L. Dick. A portrait of the late Sir Alexander Morison, and a baculum for the use of the Morison lecturer, was presented to the College by Dr. Alexander Blackhall-Morison,

THE LATE DR. A. G. SIMMINS.

LAST April an appeal was made by an influential medical committee on behalf of the children of the late Dr. Alfred George Simmins and his wife, who died within a few hours of each other from influenza. There were three children and only for the eldest, a boy aged 6, had any provision been made. The following is the third list of subscriptions:

£21.—Anon., per Professor T. B. Johnston, Guy's Hospital Medical School.
£15.—Some members of Lloyds.
£12 15s.—Members of the British Medical Association and other practitioners of Warrington, per J. B. Naden.
£10 10s.—Hildred Carlill, A. F. Hurst, North London Medico-Chirurgical Society.
£10.—Anon. (Amara, Mesopotamia), Anon. (per Professor Johnston), Anon. (Hongkong), V. P. Mondon (Tasmania).
£9 10s.—North Marylebone School of Mothercraft, per Mrs. G. Buckley.
£5 5s.—Mary Beadon, Sir G. F. Blacker, Gilbert Chubb, Stanley Dodd, Robert Hutchison, F. Langmead, Walter Spencer, H. L. Tidy, H.C.V., R. S. Willan (an old shipmate).
£5.—Adolphe Abrahams, Captain Hamilton, R.N.
£4.—G. B. Henriques.
£3 3s.—S. E. Dore, H. Tudor Edwards, N. S. Finzi, Dr. Gilman (Singapore), E. G. Goldie, Professor T. B. Johnston, Dr. Livermore, A. J. M., G. T. Mullally, J. A. Ryle, F. D. Saner, A. W. Stott.
£3.—Charles Bolton, E. P. Poulton.
£2 2s.—Eric Bailey, C. H. Bubb and W. A. Bulleid, R. Fenn, A. Green, J. Braxton Hicks, Montagu F. Hopson, H. Pinto Leite, Dr. Logan, F. Manser, H. Oddy, F. C. Odling, T. H. Oliver, R. P. Rowlands, Dr. Rumal, D. H. de Souza, Theodore Thompson.
£2.—Anon. (per J. Curtis), J. C. Baker.
£1 11s. 6d.—Drs. Rogers and Bell.
£1 10s.—A. E. Druitt.
£1 1s.—Anon., T. C. Blackwell, R. L. Crabb, Hubert Daw, J. S. Dudding, D. G. Greenfield, G. B. Good, G. W. Heckels, J. G. Jones, G. M. Kendall, H. A. Kisch, Dr. Lightwood, P. E. W. MacAdam, A. D. Marston, A. T. Scott, H. Steinbach, D. Tilbury, S. W.
£1.—Francis Chown, A. B. de Freitas, Mrs. Sandiford.
Sums under £1 amount to £2.

The total amount received is £1,260; the manner in which it will be administered will shortly be announced. Meanwhile, the Committee will be glad to receive additional subscriptions, which should be sent to the Treasurer, Simmins Appeal Fund, Royal Northern Hospital, Holloway, N.7.

Medical News.

THE next session of the General Medical Council will commence on Tuesday, November 27th, when the President, Sir Donald MacAlister, K.C.B., M.D., will take the chair at 2 p.m., and give an address.

SIR ALFRED RICE-OXLEY, C.B.E., M.D., was presented on November 15th with his portrait in recognition of services rendered by him to the royal borough of Kensington during his three years' mayoralty. The presentation was made by Lord Phillimore at Kensington Town Hall, in the presence of a large company. The portrait has been painted by Mr. W. W. Russell, A.R.A. On the same occasion a diamond pendant was presented to Lady Rice-Oxley.

DR. L. G. HEILBRON of Amsterdam will read a paper on modern radiological technique at a meeting of the Röntgen Society, to be held at 8.15 p.m. on Tuesday, December 4th, at the British Institute of Radiology, 32, Welbeck Street, W.1. In order to commemorate the work of the late Professor Röntgen, the society has decided to make an annual award of £10 (or the equivalent in books or apparatus, at the option of the recipient) to the member whose contributions during the session relating to the science or practice of medical or general radiology are, in the opinion of the council, of sufficient distinction. The award will be made for papers or demonstrations read or shown for the first time and before the society relating to radiology in any of its aspects—theory, experimental work, technique, or the design of apparatus and equipment.

THE annual livery dinner of the Society of Apothecaries of London will be held in the Hall of the Society, Blackfriars, on Tuesday, December 4th, at 6.30 o'clock.

AN address on the ethics and psychology of neo-Malthusian birth control will be given by the Rev. Fr. Vincent McNabb, O.P., to a meeting of the Guild of St. Luke St. Cosmas and St. Damian, to be held at 3.30 p.m. on Sunday, November 25th, at the Hospital of St. John and St. Elizabeth, which is near Marlborough Road Station on the Metropolitan Railway.

A MEETING of the Naval, Military, and Air Force Hygiene Group of the Society of Medical Officers of Health will be held at 1, Upper Montague Street, Russell Square, W.C., on Friday, November 30th, at 5 p.m., when Major-General W. W. O. Beveridge, C.B., C.B.E., D.S.O., will deliver his presidential address. Medical men who have served with His Majesty's Forces are invited to attend.

LORD DAWSON will take the chair at a meeting of the Royal Society of Arts on Wednesday next, November 28th, at 8 p.m., when Sir H. J. Gauvain, M.D., will lecture on the effect of sun, sea, and open air in the treatment of disease.

A FESTIVAL dinner in aid of the London Jewish Hospital, Stepney Green, will be held on Monday, November 26th, at the Connaught Rooms, with Sir Humphry Rolleston, K.C.B., President of the Royal College of Physicians of London, in the chair.

PRINCESS LOUISE, DUCHESS OF ARGYLL, has become president of the National Health Society, in succession to the late Princess Christian.

MR. DUDLEY COX TROTT, F.R.C.S., surgeon to King Edward VII Memorial Hospital, Bermuda, has been appointed an unofficial Member of the Executive Council of the Bermudas or Somers Islands.

THE Sanitary Inspectors Examination Board have appointed Dr. A. T. Nankivell (M.O.H. Hornsey) and Dr. James Fenton (M.O.H. Kensington) to act as examiners during the year 1924.

THE annual autumn dinner of the Irish Medical Schools' and Graduates' Association will take place at Pagani's Restaurant on Tuesday, November 27th, at 7.30 p.m., Sir William Taylor, K.B.E., C.B., president, in the chair. Tickets (for ladies or gentlemen) 9s. each, from Dr. Holmes Meyrick, 48, Ennismore Gardens, S.W.7.

DR. HERBERT WILLIAM CROSSE, of the Middle Temple, was called to the Bar on November 19th.

AN intensive course will be held at the Hampstead General and North-West London Hospital, Haverstock Hill, N.W.3, from December 3rd to 15th. The course will occupy the whole of each day and will consist of clinics in the wards and out-patient department, etc., by members of the staff. Two special demonstrations will be given at the North-Western Fever Hospital (Lawn Road, Hampstead, N.W.3) on the diagnosis and treatment of infectious fevers, and during the second week four clinical demonstrations on neurological subjects at the Hospital for Epilepsy and Paralysis, Maida Vale. Tuesday, December 11th, will be devoted to clinical demonstrations in the departments of the Paddington Green Children's Hospital, W.2. The fee for the course is 4 guineas. Copies of the syllabus, with full particulars, can be obtained from the Secretary to the Fellowship of Medicine, 1, Wimpole Street, W.1.

THE following have recently been elected Fellows of the Royal Sanitary Institute: Colonel J. Allan Anderson, R.A.M.C., M.B., professor of hygiene in the Royal Army Medical College; Dr. E. L. Collis, Talbot professor of preventive medicine in the University of Wales; and Sir Leslie Mackenzie, M.D., medical member of the Scottish Board of Health.

DR. CHARLES SINGER is giving three lectures on the history of medicine, illustrated by lantern slides, at University College, London. The first dealt with anatomy and art; the second, to be given on Wednesday, November 28th, at 5 p.m., will deal with early medical books; and the third, on December 5th, with representation of disease in art.

THE new casualty department of the Royal Northern Hospital, which is the borough of Islington war memorial, will be opened by H.R.H. the Prince of Wales (president of the hospital) on Tuesday, November 27th, at 3 p.m.

DR. JOHN GRIFFITHS of Llandrindod Wells has been nominated a sheriff for the county of Radnorshire.

THE fiftieth anniversary of the New York Laryngological Society was celebrated on November 15th at the New York Academy of Medicine. An exhibition was held representing the most important contributions made to laryngology by New York surgeons.

A MONUMENT to Pasteur has recently been inaugurated at Montevideo by the President of the Republic.

DURING the first six months of 1923 only 9 cases of small-pox were notified in Germany, as compared with 1,627 in Switzerland and 1,219 in England and Wales.

THE *Journal of the American Medical Association* states that a former medical practitioner, whose certificate of registration was revoked two and a half years ago, was recently fined 200 dollars at Boston for continuing to have his name listed in the telephone book as a physician.

MR. GEORGE BLUMENTHAL of New York has presented the University of Paris with a gift of 250,000 francs to be used in the interests of science and art.

DR. CHARLES H. MAYO was elected president of the American College of Surgeons at its recent annual meeting held in Chicago.

THE sixty-fifth Congress of the Swiss Society for Psychiatry was held at Berne on November 17th and 18th, when the subject for discussion was psycho-analysis and psychiatry, introduced by Dr. Christoffel of Basle.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

IN order to avoid delay, it is particularly requested that *ALL* letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westrand, London*; telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Mediocera Westrand, London;* telephone, 2630, Gerrard.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone, 4361, Central).

QUERIES AND ANSWERS.

TREATMENT OF TABES.

"I." asks for advice in the treatment of a man, aged 44, who had syphilis twenty-two years ago, and had had lightning pains for eighteen years. The sphincter ani has been failing gradually for ten years, and the anus is now semi patulous. There is no other sign or symptom of tabes. The Wassermann reaction, taken three or four times during the last ten years, has been negative, and so has the cerebro-spinal fluid.

INTESTINAL ANTISEPTICS.

DR. LEONARD J. KIDD (London) writes in reply to Dr. Graham Grant (November 10th, p. 906): Lumière (*Comptes Rendus de l'Académie des Sciences*, 1923, clxxvi, p. 540) has found that the argentothioglycerine-sulphonate of sodium (1 gram by mouth in pilules put inside biscuits) has the power of almost completely sterilizing the faeces of dogs after four days' treatment; benzo-naphthol failed. At the time of publication clinical experience confirmed these experiments. This silver salt is prepared by heating to a high degree; it contains 35 per cent. of metallic silver, is free from the usual bad effects of silver salts, and is only very feebly toxic by mouth. I have found iron perchloride to be excellent as a deodorizer of the faecal evacuations.

Dr. J. PIRIE (Leamington Spa) writes to suggest the use of kaolin, which, he says, acts because of its high absorbent power for alkaloidal poisons and "its high insulating capacity for inflamed cells." The preparation is made as follows: Add 3 oz. of kaolin to 9 oz. of water; mix gradually, with constant stirring, until a fine cream is formed; then add 1 oz. of mucilage of tragacanth, the stirring being continued. The dose is a wineglassful every four hours for three days, nujol being given during the remainder of the week; the kaolin is repeated at the beginning of the next week and followed again by nujol. The diet must be attended to at the same time.

Dr. L. WHEELER (London, W.) suggests that for the condition in question dimol should be given in sugar-coated tablets, as in obstinate cases there is often a marked deficiency in pancreatic enzymes, so that a keratin coating is not dissolved. He recommends three after each meal. Dr. Wheeler has treated many cases in the East successfully by this method, sometimes assisted by rectal lavage with silver nitrate solution (5 grains in 10 oz.), if tenesmus or blood indicated active congestion or ulceration of the terminal end of the colon. Small doses of castor oil might be a useful adjuvant. Our correspondent assumes that Dr. Graham Grant has eliminated the possibility of carcinoma.

*** The search for an efficient intestinal antiseptic has, on the whole, yielded disappointing results. A review of the older work on the subject is given by N. M. Harris (*Journ. Amer. Med. Assoc.*, 1912, 56, 1344). This article shows that most of the reputed intestinal antiseptics have little or no action. Positive results have, however, been obtained by various workers who used preparations of the heavy coal tar oils. The proprietary remedies, dimol (mentioned by Dr. Graham Grant) and kerol (which is mentioned by another correspondent) belong to this class. Sir L. Rogers (*Ind. Journ. of Med. Res.*, vol. i, No. 2, 1914) found that cyllin and izal were of some value in bacillary dysentery. The fact probably is that symptoms such as described by our original correspondent may be due to one of several conditions. The healthy intestinal canal has its own

natural method of limiting the intestinal flora, and not very much can be hoped from antiseptic drugs. Harris, in the article quoted, concluded: "Regulation of the diet, together with the evacuation of the bowels, is the most effectual method that we have at hand for reducing an excessively high bacterial content of the large intestine."

INCOME TAX.

A Branch.

"E. G." started a branch surgery on April 1st, 1923. How does he calculate the liability to tax?

*** A branch started (not taken over) is to be regarded as an extension of the existing practice of such a nature as to leave undisturbed the three years' average basis of liability. "E. G." is therefore liable to return for assessment as for the financial year his average profits of the three years to April 1st, 1923, which of course do not include the branch profits or losses. For 1923-24 those profits will commence to affect the three years' average, but will not do so to the full extent until 1926-27.

Book Debts.

"J. S. H." started a practice on April 1st, 1923, and the inspector of taxes claims in these circumstances to base the assessment on "bookings" but refuses to make any allowance for doubtful debts.

*** The inspector is following the usual course in basing the assessment of a new practice on bookings, but his refusal of an allowance for doubtful debts is unjustified in law and unreasonable in its results. "J. S. H." should prepare a list of his book debts as at April 1st, 1924, and put a valuation on each; the difference between the nominal total and the total of the valuations should be claimed as an allowance for bad and doubtful debts. We are of opinion that such a claim, if kept within the limit of obvious reasonableness, would be admitted on appeal by a board of commissioners.

Car Replacement.

"T. B. E." bought a motor cycle in 1920 for £68 and a motor car in 1921 for £350. He has recently sold the former for £15 and the latter for £100 and bought a second-hand car for £200.

*** The most "T. B. E." can claim is the actual out-of-pocket cost of replacing the car—that is, £200 − £100 = £100. If and when he buys another cycle (or another car for simultaneous use with the one he has) he can claim the loss on the old cycle—that is, £53 against that expense; but there is no relief for the loss on sale as such. The allowable expense is, of course, to be set against the gross profits of the year 1923, and *prima facie* would not affect the income tax assessment for that year.

LETTERS, NOTES, ETC.

CHRONIC INTESTINAL STASIS AND CANCER.

DR. LIONEL SELLS, Uganda Medical Staff, retired (Longfield), writes: With reference to Sir W. Arbuthnot Lane's remarks on cancer in native African races in your issue of October 27th (p. 745) I beg to state that I saw a case of carcinoma of the breast in an Acholi woman close to the Naquai Hills, north-west of "Lake" Kirkpatrick, in January, 1915. The district is closed to Europeans and Indians; of the only Europeans ever there long years ago one was murdered, and the other came, avenged him, and went. Duke in his report for 1921 briefly says he examined an epithelioma of the eyelid from a native, but gives no particulars of race, etc. I have travelled much in the bush and have inoculated thousands for plague and closely examined seventeen thousand of all tribes for army porters during the war, and this is the only case I ever saw.

"SENEX" writes: I am surprised that Sir Arbuthnot Lane's recent recapitulation of his well known views on the upright posture-constipation-cancer sequence, has not hitherto elicited any information from those interested in the study of comparative pathology. For I am informed that in animals cancer is quite a common disease; indeed, it is said that cancer of the breast is met with in dogs, for instance, almost as frequently as it is in human beings. It is true that my acquaintance with dogs is quite fortuitous, but as far as my observation goes—and there are a good many in this street—they are very rarely constipated; certainly those that frequent my doorstep never are. Here we have tangible evidence of a fundamental difference which would appear to be sufficiently important to engage Sir Arbuthnot's attention. Is it possible that there is a flaw in his reasoning—is it conceivable that we have all been on the wrong tack, and that, after all, it is not that constipation is the cause of cancer, but that cancer induces constipation?

MEAT AND CANCER.

MR. J. K. PEDLEY, L.D.S.R.C.S.Ed. (Tunbridge Wells), sends us a letter on the subject of the possible relation of the greater consumption of meat to the increase of cancer. If meat is given to a carnivorous animal it is (he writes) not kept in the mouth, but is immediately swallowed. In the light of comparative anatomy man was meant to be a non-flesh-eating animal. The almost entire absence of dental caries amongst the natives Sir Arbuthnot Lane writes of (in India, Africa, and South America) also has surely something to do with their freedom from this scourge. As soon, however, as the native child commences to eat meat the temporary teeth go to pieces—the fibres of the meat getting jammed between the teeth make way for the enamel-destroying carbohydrate of the white flour, which is given the child in imitation of the European. Amongst pre-war Germans, on becoming more wealthy, meat at every meal was the order of the day; as a consequence, I think statistics would show a greater prevalence of cancer in Germany than any country in Europe. In conclusion, until the legislature gets to work to make the sale of an emasculated flour a penal offence, and until the public realize that meat should not form the basis of their diet, cancer will still take its toll of human life.

THE DANGER OF AMYL NITRITE IN COLLAPSE.

DR. ETHELBERT HEARN (Sherwell, Isle of Wight) writes: I was interested in the case described by your correspondent under the above heading in the JOURNAL of November 10th (p. 906), first, because it must be a rare occurrence for a patient to pass "into a state of dangerous collapse" under nitrous oxide administered with oxygen; secondly, that amyl nitrite is the one drug above all others that will help us when such symptoms arise under the influence of nitrous oxide alone, and which, in my opinion, should be at the elbow of every anaesthetist when administering it. Many years ago, before the introduction of the nitrous-oxide-oxygen method, I administered nitrous oxide to a lad about 18 years of age for the extraction of two teeth. He suffered from congenital heart disease, and twice previously I had given him gas for single extractions with quite satisfactory results. On this occasion, however, after the teeth were removed, I was alarmed to find that he made no signs of recovery—indeed, cyanosis deepened, breathing had apparently stopped, and he appeared lifeless, but the sudden application of amyl nitrite acted like magic; he gave a deep gasp, started breathing rapidly; his colour, never very good, improved, and he soon recovered consciousness. Time being the essential factor in such cases, to examine the pulse and auscultate the chest seems to me like courting trouble; visual signs should be quite sufficient to prompt the anaesthetist to act, and that instantly.

A CLEANLY AND SILENT MILK CHURN.

IN its passage from the cow to the consumer milk has to run the gauntlet of contaminations of various kinds. Not the least in importance are those which are associated with its journey in bulk from the dairy farm to the retail distributor in the large upright cans—or, as they are styled in the trade, churns—which are familiar objects to most railway travellers. Most of these receptacles in general use are far from satisfactory—the lids are not tightly fitting and are so constructed that the upper portion of the churn collects dust and dirt over which the milk has to pass when the churn is emptied; there are also ventilating apertures through which dust or rain can gain an entrance, and too often the abstraction of milk during transit and its replacement by water is not at all a difficult matter. A further drawback to the use of the churn in common use is the noise and clatter which accompanies its removal from platform to railway van and vice versa—an intolerable nuisance to those who have to travel by night time. Mr. A. S. F. Robinson, A.M.I.C.E., of Barsham, Beccles, has endeavoured to remedy these defects by producing a sealed churn provided with a large rubber ring at its foot and neck, and covering the handles with rubber. He claims that by its use there is no wastage or contamination of milk during transit, and that it can be moved noiselessly. If his claim can be substantiated he will have done a real service to his fellowmen.

RECOVERY AFTER EXTENSIVE FRACTURE OF THE SKULL.

F. D. (Nice) writes: I noticed a reference, in a newspaper recently, to the case described in the BRITISH MEDICAL JOURNAL of October 13th (p. 647) of an Egyptian who lived and worked for eleven years with a fractured skull, and I think the following instance is interesting of a somewhat similar case of an Egyptian, which occurred some years ago, and in which I knew all the persons concerned:

An Arab was painting the iron lattice framework of the Ashrafi lighthouse in the Red Sea, at the entrance of the Gulf of Suez. He fell a distance of forty feet from the framework on to the cement caisson of the base of the lighthouse, striking a small dinghy swung out from davits from the framework, falling flat on his back—insensible, and apparently dead—with the base of the skull broken. The chief light-keeper and his two mates examined the skull and found a piece of the bone out, and brains with it, on the caisson. The chief light-keeper gathered up the brains with a spoon, put them back into the skull, and fitted the piece of bone into its place, making a sort of cement of coffee grounds. A box was made of old packing cases, into which the man was put, and a ship signalled asking for a doctor, who came and the box with the man in it was put on board the ship and taken to Suez to the hospital. It was found he had several ribs broken, besides the injury to the skull, in spite of which, in three months' time, he was down again at the lighthouse at work.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges and of vacant resident and other appointments at hospitals will be found at pages 29, 30, 31, 34, 35, and 36 of our advertisement columns, and advertisements as to partnerships, assistantships and locumtenencies at pages 32 and 33.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *251*.